Texas State Journal of Medicine

President, B. E. PICKETT, SR., *Carrizo Springs*
President-Elect, TATE MILLER, *Dallas*
Treasurer, T. H. THOMASON, *Fort Worth*
Acting Secretary-Editor, HAROLD M. WILLIAMS
Asst. Editor, HARRIET CUNNINGHAM, B. J., M. A.

Board of Trustees: T. C. TERRELL, Chmn., *Fort Worth*; E. A. ROWLEY, Sec'y., *Amarillo*; J. B. McKNIGHT, *Sanatorium*; M. M. MINTER, *San Antonio*; F. J. L. BLASINGAME, *Wharton*

Editorial Offices: 1404 W. El Paso Street, Fort Worth 3, Texas

COUNCILORS

1. RALPH H. HOMAN, *El Paso*
2. A. H. FORTNER, *Sweetwater*
3. H. H. LATSON, *Amarillo*
4. O. N. MAYO, *Brownwood*
5. CARY POINDEXTER, *Crystal City*
6. W. E. WHIGHAM, *McAllen*
7. R. T. WILSON, *Austin*
8. HARVEY RENGER, *Hallettsville*
9. H. W. CUMMINGS, JR., *Houston*
10. A. E. SWEATLAND, *Lufkin*
11. J. M. TRAVIS, *Jacksonville*
12. G. V. BRINDLEY, *Temple*
13. R. G. BAKER, *Fort Worth*
14. C. C. NASH, *Dallas*
15. JOE D. NICHOLS, *Atlanta*

Vol. XLIII **December, 1947** **No. 8**

DEVOTED TO THE INTERESTS OF THE MEDICAL PROFESSION AND PUBLIC HEALTH IN TEXAS

Dr. Holman Taylor, Fort Worth, Texas, secretary of the State Medical Association of Texas and editor-in-chief of the TEXAS STATE JOURNAL OF MEDICINE for thirty-seven years, died of coronary occlusion December 4, 1947, in a Fort Worth hotel at the conclusion of a dinner in his honor given by Tarrant County Medical Society and attended by many of the distinguished physicians of Texas with whom he had been associated. Dr. Taylor was stricken as he was leaving the platform and died quietly before he could be moved.

Dr. Taylor was born April 8, 1874, in Hallsville, Texas, the son of Dr. James Howard and Mary Ann (Howard) Taylor. He attended the public schools of Hallsville and Marshall, where the family moved in 1881, and Bethel College, Russellville, Ky., from which he received a bachelor of science degree in 1896. His medical education was obtained at the University of Texas Medical Branch, Galveston, from which he was graduated in 1899. He returned to Marshall to become associated with his father in general practice. The two Drs. Taylor were chief surgeons for the Marshall and East Texas Railroad and health officers for Harrison County. In 1907, Dr. Taylor served for four months as Assistant State Health Officer, but resigned to return to his practice in Marshall. In 1910 he was chosen as editor-in-chief of the TEXAS STATE JOURNAL OF MEDICINE, and business manager and secretary of the State Medical Association. He served continuously in those positions until his death. He moved to Fort Worth, where headquarters of the State Association was located, and continued to carry on some private practice of medicine until 1917, when his official duties made it necessary to devote his full time to them.

From the time of his graduation from medical school, Dr. Taylor was active in the affairs of organized medicine. He was secretary of the Harrison County Medical Society in 1901, joined the State Medical Association in 1902, became councilor of the Fifteenth District in 1903, was secretary of the Board of Councilors from 1904 until 1910, when he became secretary of the State Medical Association, was president of the Tri-State (Arkansas, Louisiana, and Texas) Medical Association for the year 1906-1907, and was president of the Northeast Texas District Medical Society in 1910. His affiliation with the State Medical Association was first as a member of Harrison County Medical Society and then as a member of Tarrant County Medical Society. He was a member of the Southern Medical Association and a fellow of the American Medical Association.

Dr. Taylor's name has been almost synonymous with the State Medical Association of Texas since its reorganization in 1904. In that year he was a member of the committee appointed to draft rules to govern the House of Delegates. In 1905, after being called upon as "young Tailman Holer" by the president to express his opinion with regard to establishment of a journal, Dr. Taylor made a motion that the "House of Delegates adopt in lieu of our Annual Proceedings, a Journal

of monthly form, and of such details of work as will be instituted by our Board of Trustees." The motion carried, and the JOURNAL was subsequently established, Dr. Taylor in 1910 becoming its second editor. Throughout the years he served the State Medical Association as secretary, Dr. Taylor was a member of numerous committees and cooperated with many others, so that his experience and judgment were manifest in most of the activities of the organization. He was particularly interested in medical legislation and assisted in the campaigns which resulted in passage of the medical practice act, the Board of Health law, the anatomical law, the tuberculosis sanatorium bill, the leprosarium bill, and the pure food drug act in the Texas legislature. Dr. Taylor had been a delegate from the State Medical Association of Texas to the American Medical Association since 1912 and had long been active whenever the House of Delegates of the national organization convened. He participated in and was a charter member of the conferences of state secretaries and editors, and had served as a member of the American Medical Association Judicial Council and other councils and committees too numerous to mention. His sage observations and salty witticisms enlivened medical meetings throughout the country for some thirty years.

Second only to his enthusiasm for things medical was Dr. Taylor's interest in military affairs. He enlisted in the state militia in 1891 and served in every rank from private to brigadier general before his retirement. He was a hospital steward in the medical corps during the Spanish-American War, but previous to that and again until 1936 he was in the infantry. From 1936 until 1938 he was in the artillery. He was never a medical officer and served on the line in France during World War I. When he was retired from the army in 1938 he was discharged with the rank of brevet major general. During World War II, Dr. Taylor was chairman of procurement and assignment of physicians for Texas and served his country long hours in that capacity.

Dr. Taylor was a member of the Methodist Church, the Masonic lodge (York Rite) up to and including the Shrine, the Elks Club, the Sons of the American Revolution, the Veterans of Foreign Wars, being a charter member of Camp Bowie Post 708, the American Legion, the Forty and Eight, the 36th Division Association, and the Texas State Historical Association. He organized and was the first chairman of the Tarrant County chapter of the American Red Cross and was a director of the Texas Tuberculosis Association. He was a member of Kappa Sigma and Alpha Mu Pi Omega fraternities. As a young man he was active in athletics and he continued to enjoy hunting and fishing as he grew older.

On October 5, 1910, in Marshall, Dr. Taylor married Miss Frances Eleanor Lake, who survives. Also surviving are one son, Dr. Holman Taylor, Jr., Fort Worth, and two sisters, Mrs. Mabel Taylor Hayes, Marshall, and Mrs. Christine Taylor Walker, Oklahoma City.

It is conceded by leaders of the State Medical Association that no man living or dead has been more valuable or has contributed more to Texas medicine than Dr. Holman Taylor. Although he was proffered the highest honors which the American Medical Association could bestow, Dr. Taylor preferred to remain at his post as secretary-editor in Texas, working vigorously for the advancement of the medical profession and the improvement of the public health throughout the nation. Even those who differed with his opinions continued always to respect his honesty and good faith and to appreciate his characteristic enthusiasm, good humor, and colorful speech. Dr. Taylor the man as well as Dr. Taylor the official will be sorely missed.

Tribute to Dr. Holman Taylor was paid at a "flowers for the living" banquet given by Tarrant County Medical Society in Fort Worth the evening of December 5. Approximately two hundred guests, including members of the county society and their wives, past presidents of the State Medical Association, and other medical associates, were present to honor Dr. Taylor, who for thirty-seven years had been secretary of the State Medical Association, editor-in-chief of the TEXAS STATE JOURNAL OF MEDICINE, and member of Tarrant County Medical Society.

With Dr. May Owen, Fort Worth, president of Tarrant County Medical Society, presiding and Dr. H. O. Deaton, Fort Worth, as toastmaster, brief words of praise for the service which Dr. Taylor had rendered to Texas medicine were spoken by Dr. T. C. Terrell, Fort Worth, chairman of the Board of Trustees of the State Medical Association; Dr. B. E. Pickett, Sr., Carrizo Springs, President of the Association; and Dr. E. H. Cary, Dallas, past president of the Association. Dr. Deaton for the Tarrant County Society presented Dr. Taylor with a hat and a packet of congratulatory messages from throughout the nation. Mrs. Edwin T. Davis, Fort Worth, past president of the Auxiliary to Tarrant County Medical Society, presented Mrs. Taylor with a bouquet of roses

and spoke warmly of her as a person in her own right as well as a helpful partner to Dr. Taylor.

The principal address of the evening was given by Dr. W. B. Russ, San Antonio, past president of the State Medical Association and for many years a friend of Dr. Taylor. Excerpts from his address follow:

ADDRESS OF DR. W. B. RUSS

Fort Worth, city of open sin openly arrived at, has been headquarters for organized medicine since the memorable 1902 Dallas fight that resulted in reorganization of the State Medical Association. During the last war, a Texas G.I. in Rome was shown a picture of Vesuvius in eruption and asked if Texas had anything like that. His reply, "No, but Fort Worth has a fire department that could put it out in fifteen minutes," represents the spirit of Holman Taylor and his Fort Worth co-workers.

For over forty years I have looked forward to the day I could attend a meeting with Holman and do all the talking. Now that the time has come, it seems almost too good to be true that both Holman and John T. Moore, also present tonight, will at last be forced to hear what I have to say. In Dallas in 1902, the adolescent Taylor, the ministerial John T., and I met for the first time as co-conspirators in a revolt against the respectable members of the profession who objected to the Yankee A. M. A. reorganization plan. Then I learned that Holman was a soldier and John T. a fighter for the right (or at any rate a fighter). John T. was then, as now, like the Negro preacher struck in the face by a tomato while at prayer who wiped his eye and said, "Brethern, we'll have a few minutes more of prayer and then there is going to be the damdest fight ever had in this church."

Our medical pioneers had the spirit of the Pilgrim fathers, who as soon as they landed on Plymouth Rock got on their knees and then got on the aborigines. They also had much in common with the bold pioneers of the West who because of their morals very properly traveled in covered wagons. Those of us who studied Texas and the great Southwest, including our medical forebears, must know that all men are fundamentally alike and that a good man is a bad man who has never been put to the test. Under strain we all show the savage within us.

The history of Holman Taylor is the history of the State Medical Association as you ex-presidents, trustees, and councilors who have served under him well know. Organized medicine in Texas owes more to Holman Taylor than to any other man living or dead. Holman, like all great leaders, is by nature an adventurer and outlaw. He proudly admits that without a strong stomach and wicked heart no man could for thirty-five years ride herd on 4,000 temperamental doctors, most of whom are ready at all times to stampede for any reason or for no reason at all. A leader in the best sense, he has always carried the burdens for an ever changing official family, accepted blame for everybody's mistakes, and given credit to others for worth-while achievements. In addition to his great work for organized medicine, he has a distinguished record of service to his country during three wars. From private to major general is a record no other Texas doctor has ever attained.

Holman Taylor, or "Tailman Holer," as he was known after the fight in 1905 over the establishment of the State Journal during which Editor Daniel called in vain upon "Tailman Holer" to change his vote, has prepared from the record and from memory an account of what happened in the State Association from 1902 to 1909. This material will eventually be made available and should be "must" reading for all new officers and, especially, for trustees and councilors. In those days, a spade was a spade and not an agricultural implement. Disputes were often settled in private, the survivor writing the report. They sometimes called each other bad names but never in a spirit of criticism. The poet who wrote:

> "His philosophy was simple and free from moral tape,
> Seduction is for sissies, a he-man wants his rape."

must have had in mind some old timers of Texas both in and out of the medical association.

Trained under McCormick, Simmons, and Reed of the A.M.A., Taylor, Chase, and a handful of rugged pioneers organized the State Medical Association. Within less than ten years, the following legislation sponsored by the medical profession was passed by a once hostile legislature: medical practice act, anatomical law, Board of Health law, tuberculosis sanatorium bill, leprosarium bill, and pure food and drug act. All of this was done without benefit of hired lobbyists or paid advertising agents. The trustees, councilors, committees, and key men in county societies did all of the work and paid their own expenses while doing it.

In early days, our leaders sometimes solved their problems like the woman motorist who shut her eyes and drove straight ahead in traffic on a busy thoroughfare. This resulted in many casualties but there were always survivors to write a report. Our fights with quacks and patent medicine people were made on the theory that all is fair in love and war. Holman, being a great lover and a great warrior, was ideal for the job.

In old days the going was rough, but in retrospect (as someone has well said) the thorns and briars that bruised and tore our flesh along the almost forgotten road now seem but harmless tendrils waving in the wind. Faith kept alive by hope and confidence was then as now the salvation of us all. Courage to face the storms of the changing years has always been and always will be the hope of the world.

Ease and comfort during recent years have given us a false sense of security. Some of our bumptious leaders remind us that if a frog had wings he would not hit his bottom against the ground so hard. Still others get excited and do foolish things like the ship's captain in a storm who grabbed an anchor and jumped overboard.

Some of our leaders are far too noble to live successfully in this wicked world. They seem to believe that doctors would be better off if everybody got well and remained well and they devote themselves to that high objective, just as most preachers dedicate their lives to putting the devil out of business. Any fool ought to know that if everybody got well doctors would be ruined, and that if anything happened to the devil, churches would go out of business for lack of customers.

Politically, we have marched up the hill and down again. It is about time to find out why the medical profession has lost its influence with politicians and the confidence of the public. Holman Taylor is the best qualified man for that job, but he cannot do it alone. We must give him all out support. During recent years, we have by-passed our early leaders and ignored the advice of experienced men. In our anxiety to get to a political heaven, some of us have seemed willing to do anything, no matter how low down it is, to get there.

It is time for a little house cleaning. We should begin by examining and reforming ourselves instead of the neighbors. We might, for example, do something about postgraduate medical education and look

into the oft repeated charge that unnecessary surgery is being done by undertrained and overwilling operators in the free-for-all surgical services of some hospitals. Perhaps, we should give some thought to the $64 question, "Who is going to staff the Hill-Burton hospitals in communities where there are no qualified specialists and the people are too poor to support any hospital?"

Time has already wiped out the sometimes bloody tracks of the medical pioneers; history is now writing romance about their names and we must invent motives to match their accomplishments. When the few survivors are dead, posterity will no doubt erect monuments to their memory. Heading the list of those to be remembered is Holman Taylor.

Dr. Taylor responded to the words of praise and commendation, saying that the occasion was the happiest of his life. A few minutes later, after most of the dinner guests had left and Dr. Taylor was talking with a few friends, he collapsed with an attack of coronary occlusion. Despite efforts of several physicians, Dr. Taylor failed to regain consciousness and died peacefully within a few minutes.

Dr. Harold M. Williams Will Be Acting Secretary of the State Medical Association until the House of Delegates convenes to elect a successor to Dr. Holman Taylor, whose death December 5 left the office of secretary vacant. Dr. Williams, who joined the central office staff July 1 as assistant secretary-editor, will carry on the activities of the Association for which Dr. Taylor was responsible.

The International Post Graduate Medical Assembly of Southwest Texas, to be held at the Municipal Auditorium, San Antonio, January 27, 28, and 29, again brings to the medical profession of the state a program of scientific value and social good fellowship.

Distinguished guests who will participate include the following:

DR. JOHN A. ANDERSON, Professor of Pediatrics, University of Utah School of Medicine, Salt Lake City.

DR. BRIAN BLADES, Professor of Surgery, George Washington University School of Medicine, Washington.

DR. HOWARD B. BURCHELL, Section of Medicine, Mayo Clinic, Rochester, Minn.

DR. ISAAC CASTERO, Head of the Pathological Department, Instituto Nacional de Cardiologia de Mexico, Mexico, D. F.

DR. STUART C. CULLER, Associate Professor of Surgery (Anesthesia), State University of Iowa, Iowa City.

DR. A. W. FARMER, Senior Demonstrator in Surgery, Medical School of Toronto University, Toronto, Ont.

DR. TRYGVE GUNDERSON, Assistant Professor of Ophthalmology, Harvard University, Boston.

DR. HOWARD T. KARNSER, Professor of Pathology, Western Reserve University, Cleveland.

DR. SAMUEL FARRAR KELLY, Assistant Professor of Clinical Surgery (Otolaryngology), Cornell Medical College, New York.

DR. LOWRAIN E. MCCREA, Clinical Professor of Urology, Temple University Medical School, Philadelphia.

DR. C. W. MAYO, Section of Surgery, Mayo Clinic, Rochester, Minn.

DR. EDWIN M. ROBERTSON, Professor of Obstetrics and Gynecology, Queen's University, Kingston, Ont.

DR. WENDELL G. SCOTT, Associate Professor of Clinical Radiology, Washington University School of Medicine, St. Louis.

DR. WILLARD O. THOMPSON, Clinical Professor of Medicine, University of Illinois College of Medicine, Chicago.

DR. HAROLD G. WOLFF, Associate Professor of Medicine (Neurology), Cornell University Medical College, New York.

A variety of subjects have been scheduled for presentation by the guests. In addition, informal luncheons each day will provide opportunity for questions to be answered by the visiting experts. Commercial and scientific exhibits will also provide information of importance. Relaxation has been included in assembly plans. A dinner dance, the annual stag party, and special entertainment for women have been arranged.

The registration fee of $15 covers the entire scientific program, luncheons, and entertainment. Military personnel on active duty will be permitted to register for $5.

Authorities in charge of the assembly suggest that hotel reservations be made early, directly with the hotels, so that those who wish to attend the conference will not be disappointed.

San Antonio, together with Houston, Dallas, and other medical centers of Texas, is taking the lead in offering conferences of great importance to the physicians of the area who wish to keep abreast of the latest developments in scientific medicine.

A Grass Roots Conference, primarily for county medical society officers, will be held in conjunction with the midwinter meeting of the American Medical Association. The conference has been set for 7:30 o'clock the evening of January 6 at the Statler Hotel, Cleveland. The House of Delegates of the American Medical Association will convene January 5 and 6 at the Statler Hotel, and a Conference on Industrial Health will be held January 5 and 6 at the Cleveland Auditorium. A scientific session planned especially for general practitioners will follow on January 7 and 8 at the Auditorium. The grouping of meetings will make a trip to Cleveland for the January 5-8 period highly worth while.

The grass roots conference is the second such conference to be held under auspices of the American Medical Association. The first was held at the time of the 1947 annual session in Atlantic City and proved sufficiently popular and helpful to those who attended to warrant a continuation of the

same type meeting. Arrangements for the January conference are incomplete, but the subjects to be discussed include "The General Practitioner—How to Create More of Him for the Future Need of the Country," "Upholding the Prestige of the General Practitioner," and "The General Practitioner and Community Leadership."

Physicians who wish to attend any of the programs in Cleveland should make hotel reservations in advance through Dr. David Chambers. Chairman, Hotel Committee, 511 Terminal Tower, Cleveland 13.

Local Committees for the 1948 Annual Session are announced herewith. The functions of the committees are fairly obvious from the titles, and members of the Association who need information or assistance are directed to the appropriate committee. The committees are engaged in completing arrangements for the annual session, which will be held April 26-29 with headquarters at the Rice Hotel, Houston. A few loose ends remain, but the general set-up is developing rapidly.

The committees are as follows:

LOCAL COMMITTEES

General Arrangements.—John H. Wootters, Chairman; Denton Kerr, Vice-Chairman; Howard Barkley, J. E. Clarke, Wendell H. Hamrick, Herbert Harris; J. D. Mabry, E. T. Clarke.

Steering.—John H. Wootters, Chairman; Chairmen of All Committees.

Hotels.—Charles D. Reece, Chairman; C. M. Ashmore, J. H. Barrett, N. M. Goodloe, J. Wade Harris, Charles R. Potts, Cornelius Pugsley, Jr., C. Gary Turner.

Information.—Granville Q. Adams, Chairman; Frank J. Ernst, Herman Glantzberg, C. R. Hamilton, Elliott B. Hay, George R. Hodell, F. D. Mohle, I. W. Moody, William Robins.

Finance.—Howard Barkley, Chairman; A. H. Braden, H. W. Cummings, Jr., C. Q. Davis, Mylie E. Durham, Wilton M. Fisher, Alfred F. Knoll, J. T. Oliver, L. E. Williford.

Memorial.—W. S. Red, Jr., Chairman; Laura C. Bickel, Thomas W. Brewer, D. H. Hotchkiss, Jr., F. J. Slataper, Wilmer Stevenson.

Clinical Luncheons.—E. T. Smith, Chairman; Curtis H. Burge, J. Alston Clapp, C. C. Cody, III, William Frank Cole, Thomas J. Donovan, Robert A. Edwards, Arthur M. Faris, J. G. Glynn, Thomas H. Guthrie, Jr., J. Griffin Heard, Denman C. Hucherson, George W. Salmon, W. M. Wallis.

Alumni and Fraternity Banquets.—Denton Kerr, Chairman; J. T. Billups, W. F. Cole, A. Louis Dippel, James Greenwood, E. W. Griffey, Robert Johnston, Thomas Kennerly, Morris W. Kilgore, Shaw McDaniel, John B. Rushing, Emile Zax.

Reception.—J. E. Clarke, Chairman; Robert Blair, J. Reese Blundell, Keith Bradford, Edmund Cowart, H. E. Dustin, H. J. Ehlers, S. A. Foote, Jr., J. B. Foster, H. L. Gardner, J. K. Glen, Alvis Greer, David Greer, T. R. Hannon, Abe Hauser, A. P. Howard, J. A. Kyle, Edgar Lancaster, Lyle Logue, Allen McMurrey, M. J. Meynier, John T. Moore, Michael O'Heeron, J. H. Park, Jr., N. B. Powell, Wallace Ralston, E. R. Seale, M. B. Stokes, J. J. Truitt, George W. Waldron, C. M. Warner, P. E. Wigby. Carl Wilson, F. R. Lummis, J. F. Rader.

Entertainment.—L. L. D. Tuttle, Chairman; George Adam, Fred Bloom, S. S. Bowen, Harry B. Burr, D. W. Chapman, Frank Iiams, D. Y. Oldham, Elizabeth B. Powell, Herbert F. Poyner, William E. Ramsay, Burt B. Smith, David V. Wachsman.

Golf.—Mark H. Latimer, Chairman; Paul W. Best, Russell F. Bonham, C. Alsworth Calhoun, Roy T. Goodwin, Paul R. Harrington, Alvis Joe Scull, W. A. Sengelmann.

Transportation.—J. G. Brannon, Chairman; W. F. Hoeflich, William R. Knight, III, Ross D. Margraves, T. A. Sanderson, P. C. A. Singleton.

Scientific Exhibits.—J. D. Mabry, Chairman; John J. Bunting, J. Aubrey Cockrell, Albert M. Dashiell, William M. Donohue, R. Marion Johnson, Abbe A. Ledbetter, W. Truett Melton, Donald M. Paton, Homer E. Prince, Hampton Robinson, Hugh C. Welsh.

Technical Exhibits.—Herbert Harris, Chairman; E. A. Chandler, Thomas D. Cronin, Dolph L. Curb, J. Charles Dickson, James Greene, John T. Stough, E. Trowbridge Wolf.

Halls and Lanterns.—Ralph C. Patrick, Chairman; A. N. Boyd, Ray G. Collins, David Earl, B. C. Hensley, Karl J. Karnaky, J. B. Robinett, Jr., W. C. E. Spencer, W. J. Stork.

Public Lectures.—E. W. Bertner, Chairman; R. Lee Clark, C. C. Cody, Jr., E. L. Goar, M. L. Graves, W. H. Moursund.

Publicity.—Wendell H. Hamrick, Chairman; J. T. Armstrong, J. Peyton Barnes, S. Baron Hardy, John C. Kennedy, Charles R. Nester, W. M. Palm, S. W. Thorn, Francis C. Usher.

Women Physicians.—Ruth Hartgraves, Chairman; May B. Bachtel, Elizabeth Crawford, Ray K. Daily, Dorothy Reaves.

Hotel reservations will be made by the central office only for out of state speakers. Members of the Association, whether officers, delegates, or regular members, as well as exhibitors, must make their own reservations. The Rice Hotel will begin accepting reservations January 1. Obviously not all who attend can be accommodated at the Rice Hotel. Attention is called to the fact that public health meetings will be held at the Texas State Hotel and Auxiliary headquarters will be at the Lamar Hotel, either of which hotels will be especially convenient for some of the visitors. Other Houston hotels are suitably located for the convenience of visiting physicians and their wives. If difficulty is encountered in securing accommodations directly with the hotels, the local hotels committee will be glad to assist.

Members of the Association who wish to present papers on the programs of the annual session should submit manuscripts promptly to the appropriate section officers, a list of whom may be found on page 165 of the July issue of the JOURNAL. Programs are nearing completion and will be closed at the mid-January meeting of the Council on Scientific Work.

Scientific exhibits and motion pictures will be considered by the chairman of the Committee on Scientific Exhibits, Dr. X. R. Hyde,

Medical Arts Building, Fort Worth. Application blanks for scientific exhibits should be secured from Dr. Hyde, and motion picture films should be submitted for review to the Library of the State Medical Association, 1404 West El Paso Street, Fort Worth 3, Texas.

Membership Dues for 1948 should be in the central office shortly after the time this issue of the JOURNAL is distributed. As explained previously, the fiscal year of the State Medical Association is now January through December, inclusive, and membership will cease December 31 for those whose 1948 dues are not paid. Dues can be marked paid only when the money has been received in the central office.

No physician will be entitled to the medical defense included with membership in the State Medical Association unless he is a member in good standing at the time the incident occurs upon which suit is based and at the time suit is filed. This feature may be important and should be considered by those who might otherwise be inclined to delay their payment of dues. Another consideration is that no member is eligible for participation in the annual session, either on the program or as an officer or committeeman, unless his dues have been paid. As a matter of fact, until dues are paid, no member can be registerel at the annual session.

It is hoped that county society secretaries have been busy pushing collections so that no memberships will lapse because of nonpayment of dues. It is also hoped that county secretaries are forwarding the dues promptly to the central office as they are collected, so that work incident to bookkeeping and to mailing out membership cards can be handled expeditiously. With the 1948 annual session scheduled earlier than usual, the load in the central office will be increased during the first few months of the new year, and records must be completed by March 1 instead of April 1. Cooperation from the membership and from county secretaries is therefore of extreme importance.

Dues remain at $20 for regular members, $4 for honorary and intern members, and $1 for military members, if there are still those in the service on a temporary basis who are eligible for military membership. Members emeritus pay no dues.

As has been true in the past, checks should be made payable to the State Medical Association of Texas.

Tuberculosis Seals have become as much a part of the Christmas season as holly and mistletoe, and no one, certainly no member of the medical profession, needs to be reminded that support of the sale of the little seals bearing the double-barred red cross assists a program which actively manifests "good will to men."

The National Tuberculosis Association, which sponsors the Christmas seals, carries on a steady fight against tuberculosis by education of the public and assistance to doctors of medicine, nurses, health departments, welfare services, and others professionally concerned with stamping out the disease. Tuberculosis associations consistently cooperate with the medical profession, and by united efforts they are making progress toward eradication of a disease which has brought misery to countless human beings.

Physicians, who more than any other group are aware of the ravages which tuberculosis has wrought, should purchase tuberculosis seals and actively support the seal campaign in their communities. Until such campaigns become unnecessary, Christmas will hold a greater meaning for those who include tuberculosis seals on their holiday shopping lists.

Season's Greetings.—As Christmas and the New Year approach, the central office staff wishes to extend greetings to members of the State Medical Association and to other readers of the JOURNAL.

During 1947 many changes have occurred. Old faces have vanished and new ones have taken their places. Perhaps it would be easy to sigh over lost opportunities and lost hopes. But Christmas should be a period of gladness and rejoicing, and the coming of the New Year a time for brave resolutions.

We ask our readers during this season to rejoice with us in the message of peace to men of good will which was brought by the Christ. We ask also that they resolve with us not only to carry on the best traditions set by leaders in days gone by, but also to strive in the year ahead for greater unity of purpose and more alert attention to the needs of our fellows.

May the Christmas season bring all of us peace and joy and the New Year a challenge for increased achievement.

CURRENT EDITORIAL COMMENT*

Management of the Menopause.—The females of our species are complicated "glands of internal secretions." Their blood streams must be visualized as a test tube in which there is a constantly changing chemical reaction every minute of every hour of every day of the month. The hormones secreted are constantly varying in concentration. In addition, as each is changed it affects indirectly the activity of every other gland. Is it any wonder that women are difficult to understand? Furthermore, to understand their problems, the slogan of the ancients must be reiterated: "There are not any two alike." Each problem is individual.

Many physicians have been led to diagnose as menopause any functional menstrual deviation in patients between the ages of 35 and 50 where no other cause is apparent. It seems to me that certain definite symptoms must be present to make a positive diagnosis of menopause. Complete cessation of menstruation or irregular flow decreasing in amount and duration are common. It has been my experience that profuse, prolonged flow is not characteristic of the menopause, but, if carefully investigated, will be found to be a signal of uterine or other pelvic pathologic condition.

Menstrual life is actually a gradually decreasing phenomenon from puberty to cessation. Most tissues begin to manifest atrophic changes for almost ten years before the peak of menopause. Certainly during the ten years preceding menopause there is a decrease in the level of ovarian hormones, so that for the best service to the patient, treatment should be instituted years before the onset of true menopause. Variations in concentration of hormone levels influence all other glands of internal secretion, causing a change in metabolism which affects profoundly the health of the patient. Hot flashes, cold sweats, emotional upheavals, bloating, dizziness, lack of concentration, mild depression, and so on ad infinitum may result.

The physician must differentiate between so-called "involutional psychosis" and true "depressive psychosis." Seldom, if ever, does the menopause result in a true depression, but its superimposition on an involutional depressive state may precipitate a permanent psychosis.

Treatment during menopause must have for its basis a sound, well thought out plan in which physical examination with correction of abnormalities, diet, exercise, household duties, and living conditions are considered.

Careful physical examinations should be routine, and correction of all disease and anatomic abnormalities is important. Lacerations of the birth canal are almost certain to manifest the highest degree of depressing symptoms during the menopause. Pelvic tumors reach the height of growth and hemorrhagic activity during this period, which has the largest percentage of malignancies.

Careful studies show a large percentage of thyroid deficiencies and the need for supervised diet and thyroid extract. Lists of foods with caloric values indicated for specific quantities should be made available, and caloric intake must be balanced with sufficient thyroid extract to equalize metabolism. Rapid gain in weight may be the result not only of increase in fat in the tissues, but also of fluid balance. Also present are incomplete and unsatisfactory vitamin levels, since women in the menopause are prone to undertake various types of diets which result in vitamin deficiencies.

Of all times in a woman's life when exercise is most important, it is the period when maturity leads to thousands of excuses to abstain. Enrollment in groups under the supervision of trained attendants, family group walks, swimming, and so forth at times all fail, and recourse must be had to massage.

Household duties should be reduced in order to vary the routine and to permit increased outside activities of a productive nature rather than of a social character.

Invariably women troubled during the menopause want to move: Those in city apartments want to move into a house in the country; those in the country want a city apartment. Both groups should maintain the greatest serenity and avoid changes of domicile.

HAROLD O. JONES, M. D.
Professor of Gynecology, Northwestern University Medical School, Chicago, Illinois.

*This department of the JOURNAL presents editorial comments on current items pertaining to the science, art and practice of medicine, contributed by members of the State Medical Association and scientists closely associated with the medical profession of Texas. Invitation is hereby extended to any member of the State Medical Association of Texas to submit such discussions for this department. The discussions should not be more than 500 words in length.

Too often it is assumed that the control of tuberculosis is solely the health department's domain of action. This is not true, nor can it ever be true, so long as men practice the ancient art of medicine. The family doctor in the city, the country doctor going about from farm to farm, the village doctor in his office over the drug store know the people, have their trust, and guide their physical destinies. The educational pamphlets of a hundred organizations cannot have the enduring effect nor the permeating persuasiveness of the doctor's personal word.—Herman E. Hilleboe, M. D., Pub. Health Rep., Dec. 6, 1946.

ORIGINAL ARTICLES

SYMPOSIUM ON ANESTHESIA
I. OBSTETRIC USE OF DEMEROL

JAMES T. DOWNS, M. D.
GALVESTON, TEXAS

During 1946 demerol was used at John Sealy Hospital, Galveston, in obstetric cases as the analgesic of choice. Among 738 deliveries by the vaginal route in the hospital, 397 patients received demerol with or without accompanying drugs. They form the basis for this report. Caesarean sections, abortions, and postpartum admissions were excluded.

Demerol is a synthetic compound, the hydrochloride of 1-methyl-4 phenylpiperidine 4-carboxylic acid ethyl ester. It was discovered in 1939 by Schaumann and Eisleb in Germany. It has been variously called dolantin, dolantol, alba, D-140, pethidine, and demerol (a proprietary name). Its pharmacologic properties, as reported by Gruber, Hart, and Gruber in 1941, consist in a sedative action, an analgesic action, and a spasmolytic action. Its action is not constant but is consistent, especially the analgesic action. The effectiveness of a 100 mg. dose is estimated as the equivalent to an 11 mg. dose of morphine sulfate. It is more effective than codeine and less so than morphine. Its effect on the human uterus is debatable, although it is supposed to stimulate uterine contractions in animals (Gruber, Hart, and Gruber[1]).

Undesirable side effects have been reported but are not prominent. According to Noth, Hecht, and Yonkman, these are vertigo, local induration, dryness of mouth, nausea and vomiting, paresthesias, restlessness, and skin reactions. Three cases of edema of the uvula and glottis were reported by Steinberg when demerol and scopolamine were used, but these symptoms were considered a result of the scopolamine as a similar reaction with seconal and scopolamine was later observed.

The clinical use of demerol in obstetrics has been reported by Gilbert and Dixon, Schumann, Hori and Gold, Gallen and Prescott, Spitzer, and Carter. These authors reported an analgesic action in from 60 to 90 per cent of the cases, with amnesia in a smaller percentage when scopolamine was used with it. A shortening of the duration of labor was also noted. No serious fetal effects were reported. Gottschalk reported a series of 40 infants whose mothers received demerol. There was no demonstrable respiratory effects on the infants who were from 7 to 60 minutes of age when measurements were made and recorded in an airtight cylinder. Obviously they did not require resuscitation while undergoing this procedure; thus the value of the observation was reduced. The usual dosage was 100 mg. of demerol and 0.43 mg. of scopolamine, given when labor was definitely established and repeated at from one to four hour intervals as needed. The usual route of administration was intramuscular although some recommended its use by slow intravenous injection. Convulsions and other signs of cerebral irritation may occur if rapid injection is performed or too much demerol is given, as noted by Batterman.

From the Department of Obstetrics and Gynecology, University of Texas Medical Branch.
Read before the Section on Obstetrics and Gynecology, State Medical Association of Texas, Annual Session, Dallas, May 7, 1947.

JOHN SEALY HOSPITAL STUDIES

In the 397 cases at John Sealy Hospital, demerol was given by the intramuscular route exclusively. Oral dosage is not effective and is generally undesirable for patients in labor. Intravenous injection was not done because of the increased danger to the mother. The total dosage varied from 50 to 450 mg., the standard dose being 100 mg. with 0.43 mg. of scopolamine, followed by 50 mg. in two hours as necessary. The first injection was given when the patient was definitely in labor and was requesting some relief. This was usually with the cervix dilated from 3 to 4 cm. The majority of the patients (58 per cent) delivered within three hours of the first injection, so that second doses of the drug were usually unnecessary. If necessary, 50 mg. of demerol was given two hours after the first dose, followed by 100 mg. with 0.43 mg. scopolamine in another two hours.

The effects on the patients were striking. On a patient who was restless and moaning, a quiet descended in about fifteen minutes and she slept; she roused during a contraction and then went back to sleep. She could easily be aroused, though, and even could conduct an intelligent conversation. In a few cases, this effect is quite noticeable and the unwary will conclude that labor has stopped, only to be surprised by a completely dilated cervix on examination. Some patients tell of a sense of well-being, a euphoric state in which they seem to be floating on a cloud, quite a pleasant feeling. However, there are some who get no beneficial effect from demerol. In this series analgesia was good in 73.5 per cent, fair in 10.9 per cent, and absent in 15.6 per cent. This is similar to the best effects noted by Schumann. Amnesia was noted in only half of the cases, although

most of the patients were satisfied with the results of the analgesic.

Although nausea and vomiting are difficult to evaluate in obstetric cases, an attempt was made to eliminate those in which nausea and vomiting were not due to demerol. In only 9 of the 397 (2.5 per cent) did nausea and vomiting seemingly result from the drug. In addition, 1 patient had a transitory skin rash following 50 mg. of demerol, but this soon disappeared without treatment. No other untoward effects were noted.

Although the impression was gained of a shorter labor with demerol, this was not borne out by comparison with patients receiving other analgesics or nothing. The short period of time from the administration of demerol to delivery in over half of the cases has been mentioned. However, in this series, the total period of labor as well as the length of its component stages was longer with demerol than in the other patients (table 1).

In the large group of patients not receiving any analgesic, the short period of labor is evident. These are cases where there was no time to give the analgesic, either because of late arrival at the hospital or very rapid labor. The selected primiparas exclude breech presentations, transverse and posterior arrests, and inertias. Even in this series the total length of labor is an hour longer with demerol than with barbiturates. Although the comparison is not equal, it can be said that demerol did not decrease the length of labor in this series.

TABLE 1.—*Effect of Demerol on Length of Labor.*

	Primiparas (252) Hours in Labor			Selected Primiparas* (167) Hours in Labor			Multiparas (486) Hours in Labor		
	1st Stage	2nd Stage	Total	1st Stage	2nd Stage	Total	1st Stage	2nd Stage	Total
Patients receiving demerol (397)	14.45	0.71	15.16	12.94	.58	13.32	9.82	0.49	10.31
Patients not receiving demerol (341)	10.88	0.49	11.37	11.64	.57	12.21	7.54	0.38	7.925

*Selected primiparas exclude breech, transverse, and posterior deliveries, and inertias. In the lower row, they include only patients receiving barbiturates.

TABLE 2.—*Condition of Infant at Delivery in 738 Cases.*

No. Patients	Analgesic	Delayed Cry		Delayed Respiration		Cyanotic		Resus. Required		Still-births		Neonatal Deaths	
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
299	None	46	15.3	23	7.6	54	18	10	3.3	4	1.3	4	1.3
397	Demerol	153	38.3	77	19.3	172	43	51	12.8	6	1.5	3	.75
36	Barbiturates	11	30.5	7	19.4	10	27.7	4	11	0	—	0	—
6	Rectal ether	1	—	0	—	2	—	0	—	0	—	0	—

The effect of demerol on the infant was difficult to evaluate. In the 397 patients receiving demerol, there were 394 live births; almost 50 per cent showed some depression of their circulatory and respiratory systems. This is in striking contrast to 300 babies whose mothers had no analgesic agent (rapid labors, delivery shortly after admission, and so forth). Less than 20 per cent showed any effect on circulation and respiration. This depression was of minor significance in most cases and is mentioned only to point out that demerol does have an effect on the infant. However, 51 or 12.8 per cent of babies whose mothers received demerol required resuscitation in contrast to 10 or 3.3 per cent of those without any analgesia. A small series of patients receiving barbiturate analgesia (36) and rectal ether (6) was analyzed and showed effects similar to demerol (table 2). It is interesting to note that cyanosis was present in 43 per cent of the babies following demerol. This cyanosis usually cleared up in a few minutes without any attempt at resuscitation.

It was recommended by two British authors, Gallen and Prescott, not to give any demerol if delivery was anticipated within two and one-half hours. This idea is partially borne out by the relation of the time of administration of demerol to the effect on the fetus at delivery. The amount given, that is, 50 or 100 mg., was not significant. The majority of effect was seen when demerol was administered between two and one-half hours and thirty minutes prior to delivery. Very little effect was seen in babies when the demerol was given thirty minutes or less before delivery. It is interesting that an almost equal number of infants were delivered showing no apparent effect from demerol administered during the two and one-half hour to thirty minute period, but three times as many of that group showed no effect as compared to those with some effect from demerol given during the thirty minute to delivery period (fig. 1). This is certainly suggestive that the demerol had insufficient time to act in these cases and therefore that it does

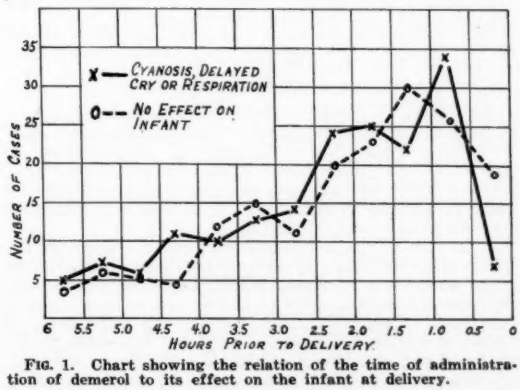


FIG. 1. Chart showing the relation of the time of administration of demerol to its effect on the infant at delivery.

have an effect on the infant, providing adequate time intervenes between the administration of the drug and the delivery.

In those infants requiring resuscitation in the demerol series, 24 could be explained readily by other reasons. Eighteen of the remaining 27 cases were given demerol within from thirty minutes to two hours before delivery. From these data, the depressing effect of demerol on the infant can be readily appreciated. None of these 18 cases presented any difficulty in response to resuscitation, however. The stillbirths and neonatal deaths could all be satisfactorily explained on anatomic grounds. None could be attributed to the use of demerol.

Thus the effect of demerol is generally negligible on the infant, it is not constant, and it should be remembered when administering large doses.

SUMMARY AND CONCLUSIONS

Seven hundred thirty-eight vaginal deliveries at John Sealy Hospital in 1946 are reviewed and the effects of intramuscular demerol during labor on 397 cases are noted. It can be concluded that demerol is an effective analgesic agent in labor with a minimum of ill effects on the mother. It has a slight, but definite, depressant action on the infant. From this series it cannot be said that demerol shortens labor.

REFERENCES

1. Batterman, R. C.: Demerol: New Synthetic Analgesic; Its Indications As Substitute for Morphine, Conn. State Med. J. 8:13-17 (Jan.) 1944.
2. Carter, H. M.: Role of Demerol in Obstetrics, Wisconsin Med. J. 44:1170-1172 (Dec.) 1945.
3. Gallen, B., and Prescott, F.: Pethidine As Obstetric Analgesic, Brit. M. J. 1:176-179 (Feb.) 1944.
4. Gilbert, G., and Dixon, A. B.: Observations on Demoral As An Obstetric Analgesic, Am. J. Obst. & Gynec. 45:320-326 (Feb.) 1943.
5. Gottschalk, A. S.: Respirations During the First Hour of Life, Am. J. Obst. & Gynec. 52:651-656 (Oct.) 1946.
6. Gruber, C. M., Hart, E. R., and Gruber, C. M., Jr.: The Pharmacology of Demerol, J. Phar. & Exp. Ther. 73:319-333, 1941.
7. Hori, C. G., and Gold, S.: Demerol in Surgery and Obstetrics, Canad. M. A. J. 51:509-517 (Dec.) 1944.
8. Noth, P. H.; Hecht, H. H.; and Yonkman, F. F.: Demerol: New Synthetic Analgetic, Spasmolytic, and Sedative Agent; Clinical Observations, Ann. Int. Med. 21:17-34 (July) 1944.
9. Schumann, W. R.: Demerol and Scopolamine in Labor, Am. J. Obst. & Gynec. 47:93-104 (Jan.) 1944.
10. Spitzer, W.: Obstetric Analgesia with Pethidine, Brit. M. J. 1:179-181 (Feb. 5) 1944.
11. Steinberg, M.: Edema of the Uvula and Edema of the Glottis: A Reaction to Demerol-Scopolamine Anesthesia, Am. J. Obst. & Gynec. 50:542-545 (Nov.) 1945.

ABSTRACT OF DISCUSSION

Dr. Earl F. Weir, Dallas: The essayist has presented an honest valuation of a controversial drug. I believe that the bibliography, presentation of statistics, and conclusions drawn closely conform to those of my own series and of a series studied last year under the direction of Dr. William F. Mengert at Parkland Hospital, Dallas.

Recently Gross, professor of pharmacology at the University of Iowa, in conjunction with Cullen, associate professor of anesthesiology at the University of Iowa Hospitals, studied the entire narcotic group of drugs. They used the Wolf-Hardy technique of pain perception which is the cathode ray oscillograph technique. From their studies in the human being, they determined that as an analgesic both in intensity of action and duration of action 50 mg. of demerol equaled 7 mg. of morphine sulfate, and that morphine sulfate was from seven to eight times as effective in pain relief as demerol.

However, the property of demerol to cause less respiratory depression, unit for unit, as compared with morphine I believe is the prime consideration here. Not only is there less demonstration of apnea in the newborn infant because of depression of the drug per se, but also the minute volume respiratory exchange of the mother has been less decreased during labor with consequent adequate saturation of the fetal blood with oxygen throughout. Lowered oxygen tension in the region of the respiratory and vasomotor centers of the fetus, I believe, is as often the modus operandi in respiratory and circulation depression of the newborn infant as the depressing action of narcotizing drugs themselves.

SYMPOSIUM ON ANESTHESIA
II. OBSTETRIC SADDLE BLOCK ANESTHESIA

R. R. SHEPPERD, M. D.
LLANO, TEXAS

This series of obstetric patients delivered by a general practitioner includes 60 unselected cases in which nupercaine and glucose were used in saddle block anesthesia. The term "saddle block" is well chosen: it not only designates the area anesthetized, but it avoids the term "spinal," which conjures up visions in the minds of the laity of innumerable back catastrophes.

The technique used, with slight modifications, was described by Drs. Parmley and Adriani.[2] It is briefly as follows: Routine spinal puncture is made with a 20 or 22 gage needle in the third or fourth lumbar interspace. In most cases the anesthesia is administered with the patient in bed. The patient assumes the sitting position, leaning slightly forward, supported by an attendant. Two cc. of 10 per cent glucose are mixed with 2 cc. of 5 per cent nupercaine. One cc. of this mixture containing 2.5 mg. of nupercaine is injected into the spinal canal, after making sure that the needle is in place with the bevel turned downward. The injection should be made between pains, so that spinal fluid currents instituted by contractions will not carry the solution upward and diffuse the anesthesia. The glucose is used to make the solution hypertonic so that it will settle to the conus. After exactly thirty seconds the patient is placed in the recumbent position with her head supported by a pillow. After from four to five minutes, during which time the nupercaine becomes fixed, the patient may assume any position. Many patients are allowed to take small amounts of nourishment during labor.

In the present series this method was em-

Read before the Section on Obstetrics and Gynecology, State Medical Association of Texas, Annual Session, Dallas, May 7, 1947.

ployed routinely in all cases except where there were definite contraindications. The only patients who have been refused this anesthesia so far were those on whom cesarean sections were performed and for whom a regular spinal procedure with procaine was followed. To each patient the saddle block method was explained as accurately as possible. In each case, this anesthesia was made optional with the patient; so far, only 2 have declined it. Without exception the patients and their families were enthusiastic in their approval.

The ages of the patients varied from 16 to 34 years. Primiparas and multiparas were about evenly divided in number. Newborn infants varied in weight from 5 to 10 pounds. Preanesthetic medication was deliberately omitted in almost all cases for two reasons: (1) there was the desire to study the uninfluenced action of the anesthetic, and (2) premedication was not considered necessary. Anesthesia was started from fifteen minutes to twelve hours prior to delivery. In most cases it was started as soon as it could be determined that the patient was in actual, hard labor.

Saddle or perineal area anesthesia was complete or satisfactory in all cases. Abdominal muscles were not affected. It became effective almost immediately after administration. The patient, though perfectly rational, did not realize when the infant was born. Most of the mothers were able to get upon the delivery table unassisted. All episiotomies were repaired without further anesthesia. There were occasional mild pains in one or the other lower quadrants or in the sacral region. Anesthesia lasted a maximum of five hours; the average duration was two and one-half hours. Injections were repeated whenever the patient began to complain; 2 patients were given 4 injections each. It is probable that the best time to institute this form of anesthesia is at the period when the cervix is 4 to 5 cm. dilated and contractions from four to five minutes apart.

There was a slight blood pressure drop in 65 per cent of the cases. The maximum decrease was 30 mm. of mercury systolic and 20 mm. diastolic and the average decrease was 15 mm. systolic and 10 mm. diastolic in those cases where the blood pressure was affected. The maximum decrease in each case occurred within the first five minutes after the injection. Small doses of ephedrin sulfate were used in 6 cases. Nausea was present in 3 cases, but was not considered due to the anesthetic. Labor was perceptibly slowed in 30 per cent of the cases and stopped entirely in 1 case; normal cycles of contractions were restored with 2 minims of posterior pituitary extract. Post puncture headache was observed in 2 cases; no other side effects on the mother were ascertainable at delivery nor at the six weeks postpartum examinations. There were no ill effects on the infants. The small amount of nupercaine used together with the control of distribution probably account for the absence of toxicity frequently attributed to this drug.

In this series low forceps were used in 5 cases or 8.3 per cent. Three of these cases would certainly have required the use of forceps regardless of the type of anesthesia or analgesia. There were 2 persistent posterior presentations, in both of which the infant was delivered without forceps. There were 2 breech presentations, 2 cases of threatened eclampsia, 3 of mild disproportion, and in 60 deliveries the border line difficulties usually encountered.

The initial injection produced unsatisfactory results in 4 cases and no anesthesia in 2 cases. It was repeated immediately, using 1 cc. of the same mixture with excellent results. Adriani[1] explained the occasional complete failure that some of the residents at Charity Hospital encountered as being due to faulty technique. This study lends support to that opinion. Using the same mixture, on the same patient, in the hands of the same operator, during the same half hour, the results varied. The logical answer is that the operator was the variable factor. Apparatus for administering emergency measures such as oxygen and artificial respiration were kept at hand, but neither was needed or used. The doctor was in constant attendance with the first half of the series, repeatedly checking blood pressure, pulse, respirations, level of anesthesia, rate and severity of contractions, fetal heart rate, and any possible undesirable reactions. For the rest of the series he remained only a few minutes to check the anesthesia, contractions, and blood pressure. Then he returned home or to the office and let the nurses check the blood pressure occasionally.

DISCUSSION

Saddle block is not the "ideal" anesthesia for obstetrics, but it does have its application. In all branches of the healing art there are certain procedures which are good in the hands of a few, but this possibly radical procedure has been found to be feasible in the hands of John Doe, M. D. Anyone who can do a spinal puncture can give it.

This method of anesthesia is more time consuming than many other methods, but the results are gratifying. In many cases it is far less troublesome than other methods.

Also, this procedure is such that the patients can understand why they are being charged extra. So far, even in this price-conscious territory, no one has complained of the extra fee of $25.

Small town doctors, especially in the more isolated communities, such as Llano, must do their own obstetrics even though they may not like it.

I am strictly a general practitioner; in my experience this anesthesia has done more to decrease my dislike for obstetrics than anything else since the abandonment of home deliveries. It eliminates the instances of Grandma or Aunt Ellen insisting that the nurse call the doctor every few minutes and it virtually eliminates the obstetric disturbance in the small hospital. It is most appreciated in the long and difficult labors and in the all too frequent spoiled or frightened patient. After giving birth to a child under saddle block anesthesia, many patients were far more willing to give birth to another child than they had been previously.

SUMMARY

Facts about saddle block anesthesia in obstetrics which adapt it especially well to use by the general practitioner are:

1. Effectiveness—freedom from pain is usually absolute.
2. Assurance of success.
3. Special equipment and personnel are unnecessary.
4. Ease and simplicity of administration.
5. Controlability.
6. Minimum of ill effects.
7. Patient and family acceptability. This anesthesia answers the frequent demand that something be done.
8. No additional medication is needed for perineal work. One type of anesthesia can be used for all three stages of labor.
9. Patient apprehension is minimized, allowing greater cooperation and less nursing care just before, during, and immediately after delivery.

CONCLUSION

Sixty cases are not conclusive, but they, together with other reported cases and various personal communications, have persuaded me to continue using saddle block anesthesia in obstetrics until something new and better has been advocated and proven.

REFERENCES

1. Adriani, J.: Personal communication.
2. Parmley, R. T., and Adriani, J.: Saddle Block Anesthesia with "Nupercaine" for Obstetrics, South. M. J. 39:191-195 (March) 1946.

ABSTRACT OF DISCUSSION

Dr. Earl F. Weir, Dallas: The use of saddle block anesthesia as described originally by Adriani was intended to be what the name implied. This procedure in many instances has been revised to the point of obtaining mid to high spinal analgesia, with the consequent paralysis of more protective sympathetic dermatomes with interference of normal vasomotor control of the peripheral circulation. When this has been done either intentionally or inadvertently in the presence of obstetric pathologic conditions, previously unrecognized, the result has been only increased mortality and morbidity in both mother and child. For this reason, Dr. Paul M. Wood, secretary of the American Society of Anesthetists, recently urged anesthesiologists to use great care and follow only the counsel of competent obstetricians and gynecologists regarding which patients should be subjected to saddle block, spinal, and high caudal anesthesia. The anesthetist is not qualified to make these decisions and I believe that no one using saddle block anesthesia should make this decision any more than the anesthesiologist unless he feels sure that he recognizes all types of obstetric complications.

Post analgesic headaches have been a problem in my own group. We have been careful in the use of only 22 gage needles, injection between pains, keeping the saddle low, and so forth. We have also tried pontocaine, heavy metycaine, heavy novocaine, and adding ephedrine sulfate to the mixture with little change in relief of caphalgia. Dr. Adriani was consulted and he suggested rinsing needles and syringes with sterile triple distilled water following autoclaving and just prior to use. Even with this precaution, we feel headaches are still too frequent. At present Dr. William F. Guerriero and staff are making an outlined, statistical study of this problem at The Florence Nightingale Maternity Hospital, and we are awaiting their results with interest.

SYMPOSIUM ON ANESTHESIA

III. LOCAL ANESTHESIA TECHNIQUE FOR CESAREAN SECTION

E. K. BLEWETT, B. A., M. D.
AUSTIN, TEXAS

During the past decade an increasing number of obstetricians have advocated the use of local anesthesia for performing cesarean sections. It is widely accepted as the anesthesia of choice for performing cesarean section in patients having tuberculosis, heart disease, toxemia, chronic nephritis, or other debilitating diseases, and should therefore be best for all other cesarean sections as well. Beck and DeLee have long extolled its merits. The technique to be presented in this paper was originally described by Beck in 1942.[2]

The advantages of using local anesthesia for cesarean section are manifold. Paramount, of course, is the fact that there is no anesthetic mortality. The risk of fetal asphyxia is minimal. The infant cries spontaneously and lustily a few moments after its removal from the uterus. There is less local blood loss due to the use of adrenalin, and the retraction and contraction of the uterus is not interfered with so that the placenta separates rapidly, reducing the blood loss and the

Read before the Section on Obstetrics and Gynecology, State Medical Association of Texas, Annual Session, Dallas, May 7, 1947.

incidence of postpartum hemorrhage. Nausea and vomiting, which may tear out peritoneal sutures, are seldom seen and the danger of aspiration pneumonia is eliminated. There is neither shock, dehydration, nor irritating effect on the respiratory passages that usually accompanies inhalation anesthesia. Laryngeal spasm is not encountered. The patient actively moves about in bed immediately following surgery, thus decreasing the incidence of thrombophlebitis, pulmonary embolus, and pulmonary atelectasis. Because foods and liquid can be given the patient immediately after the operation, the incidence of paralytic ileus and abdominal distention is greatly reduced.

Local anesthesia has the advantages of other anesthesias without the disadvantages. All too frequently the patient may be exhausted from a long, difficult labor, exsanguinated from hemorrhage from a placenta previa, in shock following a premature separation of the placenta, or ill with a pulmonary, renal, or cardiovascular disease. In some cases the infant may be premature or may have some degree of anoxemia from a difficult, long labor or embarrassed circulation. The use of local anesthesia in such cases is of paramount importance both for the safety of the mother and the welfare of her newborn.

Contrary to general opinion, local anesthesia is simple to administer and does not require a great deal of experience. It does, however, require patience and strict adherence to a set routine. The importance of the advantages of local anesthesia must be stressed to the patient and she must be made to understand that little or no pain will result from its use. Any apprehension on her part must be relieved by simple explanation and reassurance by the attending physician before she goes to the operating room. Until recently the drugs usually relied upon to relieve anxiety when local anesthesia was employed could not be used in cesarean section because of their effect upon the infant. However, Light,[11] reporting the use of 100 mg. of demerol and 1/200 grain of scopolamine for 67 patients one hour prior to operation, found it satisfactory and without harm. All of the infants breathed immediately after delivery. I have used the recommended dosage of demerol and scopolamine preoperatively for cesarean section in a few cases recently and found it to be entirely satisfactory and without apparent harm.

TECHNIQUE

Three different solutions are used:

Solution 1 consists of 50 cc. of .5 per cent procaine and is employed for the intradermal and subcutaneous infiltrations in the site of the incision. To avoid possible skin sloughing, adrenalin is not used.

Solution 2 is prepared by adding 1 cc. of 1:1,000 adrenalin to 200 cc. of 1 per cent procaine. This 1:200,000 adrenalin in 1 per cent procaine solution is used for the deep nerve blocking injections which are made just above the fascia in the vicinity of the semilunar lines at the outer border of the recti muscles.

Solution 3 is prepared by adding .25 cc of 1:1,000 adrenalin to 50 cc. of .5 per cent procaine. It is used to infiltrate the peritoneum on each side of the bladder, and over the lower uterine segment. If at any time during the operation further procaine injections are necessary, this solution should be used.

A 10 cc. Luer-Lok syringe with lateral and plunger rings is used for all injections.

Using solution 1, a 1.5 inch 25 gage needle is used to raise an intradermal wheal about 1 cm. in size just to the left of the midline at the upper end of the proposed incision. The needle is then plunged into the subcutaneous tissue beneath the wheal and about 1 cc. of solution 1 is injected. After it is withdrawn, the needle is painlessly reinserted at the distal periphery of the intradermal wheal, and another adjacent wheal and subcutaneous injection are made. Repeated intradermal and subcutaneous injections are made until the entire length of the proposed incision is anesthetized. Approximately 25 or 30 cc. of solution 1 is required (fig. 1a).

After a few moments the skin and subcutaneous tissue are incised through the anesthetized area down to the fascia. A 22 gage 3 inch needle is passed laterally just above the fascia, and following aspiration of the syringe plunger to be certain the needle is not in a vein, 2 cc. of solution 2 is injected at the outer border of the rectus muscle at the semilunar line. Similar injections are made at 1 cm. intervals around the entire circumference of the incision so that there is a continuous mass of 1 per cent procaine surrounding the incision. It will anesthetize the lateral nerves at the point where they divide into their terminal branches to furnish the nerve supply of the abdominal wall from the peritoneum to the skin (fig. 1b). Approximately 90 to 110 cc. of solution 2 are used for these injections. Slightly larger amounts of the procaine solution are needed for the injections just above the symphysis.

At the completion of these injections a full ten minute delay is necessary. This should be timed by the clock. The superficial vessels may be ligated during this period; then the wound should be covered until the wait

is completed. The success of the operation depends on this waiting period.

The fascia is incised for a short distance with the knife and the fascial incision is completed with scissors because imperfectly anesthetized areas will be more readily detected with scissors. If pain is experienced, a slightly longer waiting period may be necessary. Rarely are further procaine injections needed. If no pain is experienced, the operator may proceed with the assurance that anesthesia is perfect.

The rectus muscle is retracted laterally and the peritoneum is exposed. The peritoneum is picked up and divided between clamps at the upper end of the incision and is incised with scissors. On the rare instance that pain is experienced during the procedure, the peritoneum should be infiltrated in the line of the incision with solution 3.

finger dissection the peritoneum and bladder are pushed down from the lower uterine segment and the cervix. It is sometimes necessary to use scissors to cut the midline bladder adhesion. An upper peritoneal flap may be dissected in a similar manner if it seems advisable.

At this point the anesthetist is instructed to give the patient nitrous oxide inhalation. The lower uterine segment is incised vertically with a knife and the incision is enlarged with scissors. The infant is extracted manually head first. Nitrous oxide inhalation is then discontinued. The nitrous oxide is not used for more than one minute as its purpose is for analgesia and not anesthesia. The patient may become restless if the gas is given for any longer period and the intestines may be forced into the operative field.

One cc. of ergotrate is given intravenously

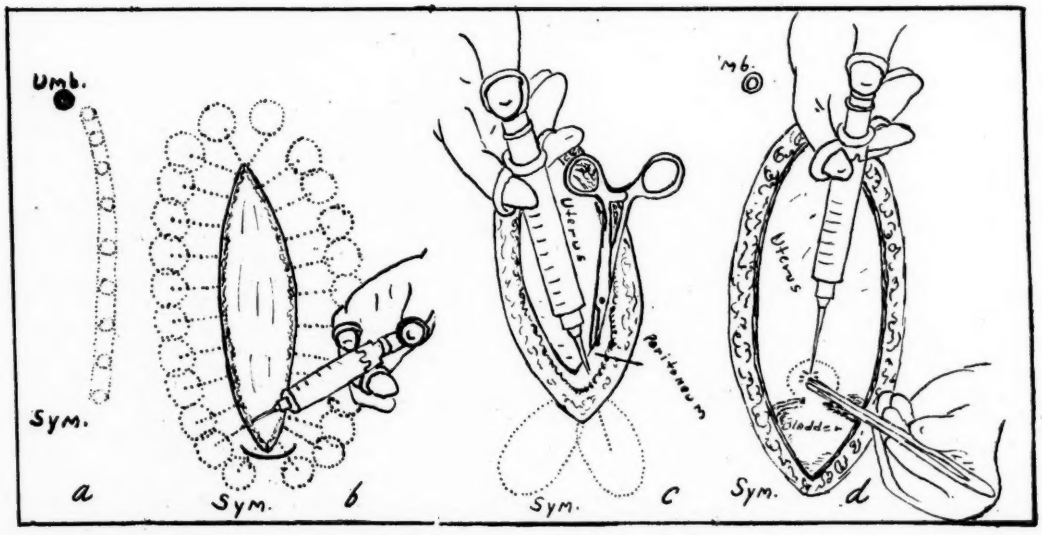


FIG. 1. Local anesthesia technique for cesarean section.
a. Line of intradermal and subcutaneous injections of novacaine through which incision will be made.
b. Deep nerve blocking injections. The needle is introduced just above the fascia and the injections are made in the region of the semilunar line at 1 cm. intervals about the circumference of the incision.
c. Traction is made on the peritoneal edge near the lower angle of the incision and a subperitoneal injection of 5 cc. of solution 3 is made at each side of the bladder.
d. The peritoneum on the anterior surface of the uterus is picked up with smooth pointed tissue forceps about 1 inch above the bladder and 10 cc. of solution 3 is injected into the subperitoneal tissue.

Traction is made on the peritoneal edge near the lower angle of the incision and a subperitoneal injection of 5 cc. of solution 3 is made at each side of the bladder (fig. 1c).

The peritoneum on the anterior surface of the uterus is picked up with smooth tissue forceps about 1 inch above the bladder, and 10 cc. of solution 3 is injected into the subperitoneal tissue. Using finger pressure the procaine solution is massaged beneath and to the side of the bladder (fig. 1d). A transverse incision is made with scissors in the peritoneal bladder reflection. By blunt

immediately following delivery of the child.

The edges of the uterine incision are approximated with interrupted sutures introduced through the myometrium down to the endometrium. These sutures are placed at 1.5 cm. intervals, and are left long, held taut with clamps, and not tied. Nitrous oxide is administered again for about one minute. The wound is spread apart, the hand is introduced into the uterine cavity, and the placenta is separated and removed manually. The nitrous oxide is immediately discontinued. Again it is necessary that the nitrous

oxide not be administered for too long a period of time. The uterine sutures are again held taut and tied. Additional sutures are introduced wherever necessary. The peritoneal bladder flap is brought up over the upper angle of the uterine incision and sutured with either interrupted or continuous sutures. The abdominal wall is closed in layers. Usually no pain is experienced. If further injections are necessary, solution 3 should be used.

DISCUSSION

No death due to the use of local infiltration anesthesia in performing cesarean section has been reported. The use of other anesthetic agents does not carry such a low risk. Table 1 lists anesthesia deaths in cesarean section surveys in various hospitals and cities.

Lull[12] reported 2 maternal spinal anesthetic deaths in 39 cesarean section deaths in a total of 573 sections performed in Philadelphia in 1931.

Eastman and his colleagues[13] reported 4 inhalation anesthetic deaths in 38 cesarean section deaths in a total of 1,333 sections performed at Johns Hopkins Hospital.

Douglas[4] reported for the New York County Maternal Welfare Committee 3 inhalation anesthetic deaths from 1937 to 1940 in a total of 58 cesarean section deaths out of 2,558 sections performed. A careful study of the individual records led him to believe that anesthesia played an important role in at least 8 additional deaths.

Gordon and Rosenthal[6] reported for the Brooklyn Maternal Welfare Committee that for the nine year period from 1937 to 1946 there were 160 cesarean section maternal deaths. Of these, there were 8 anesthetic deaths (5 per cent), 3 of which were directly due to inhalation anesthesia and 5 to spinal anesthesia. Again, a careful study of the individual records led them to believe that the anesthesia played an important contributory role in several additional deaths.

Johnston[8] reported a personal series of 362 cesarean sections with 8 deaths, 1 of which was due to pneumonia following cyclopropane anesthesia in a patient with asthma. Two other deaths were due to shock and circulatory collapse following cesarean section done under nitrous oxide-ether anesthesia. He stated that "it is difficult to say the anesthesia was the fatal factor; however, hemorrhage was not the cause of death as shown by the clinical history of slight loss of blood and at the autopsy well contracted uteri were found in both instances."

Thompson and Krahulik[16] reported that in Los Angeles County in 1934 and 1935 there were 1,702 cesarean sections performed with 128 deaths. Two deaths were directly due to spinal anesthesia and 3 were from pneumonia following ether anesthesia.

Ginglinger[5] stated that in 237 cesarean sections performed under ether anesthesia there were 4 deaths attributed to the anesthesia; 2 to bronchopneumonia, and 2 to uterine atony with hemorrhage and death on the operating table. He reported that in 248 more cesarean sections performed under spinal anesthesia there were 3 immediate anesthetic deaths due to syncope.

DeNormandie[3] in a five year collective series of 11,117 cesarean sections performed from 1937 to 1941 in Massachusetts found there were 273 maternal deaths and 11 patients died of the anesthesia. Ten deaths were due to inhalation anesthesia, and 1 death was attributed to spinal anesthesia.

Pla and Rica[15] from 1934 to 1941 used spinal anesthesia in 45 cesarean sections and had 3 deaths from bulbar syncope; 1 each from tutocaine, novocaine, and metycaine.

TABLE 1.—*Anesthetic Deaths in Cesarean Section.*

Author	Place	Hospital	Year	Cesarean Sections Performed	Cesarean Section Deaths		Anesthetic Deaths		
					No.	%	Inhalation	Spinal	%
Lull[12]	Philadelphia	Collective	1931	573	39	6.80	0	2	5.2
Manahan, Connally & Eastman[13]	Baltimore	Johns Hopkins	1942	1,333	38	2.85	4	0	10.52
Douglas[4]	Manhattan	Collective	1941	2,558	58	2.26	3	0	5.17
Gordon & Rosenthal[6]	Brooklyn	Collective	1947		160		3	5	5.00
Johnston[8]	Houston	Personal	1945	362	8	2.21	1	0	12.49
Thompson & Krahulik[16]	Los Angeles	Collective	1938	1,702	128	7.52	3	2	3.90
				237			4	0	
Ginglinger[5]		Personal	1937	248			0	3	
DeNormandie[3]	Massachusetts	Collective	1942	11,117	273	2.46	10	1	4.03
Pla & Ricci[15]		Personal	1941	45			0	3	
Kahn, Morrison, & Douglass	Baltimore	Univ. of Maryland	1945	1,088	55	5.05	3	0	5.45
King[10]	New Orleans	Collective	1940	1,108	64	5.77	?*	1	1.56
Blewett	Austin	Collective	1947	292	8	2.74	1	0	12.50

*There were 8 deaths due to pneumonia. King does not list them as anesthetic fatalities.

They also had 3 serious spinal anesthetic accidents without deaths.

Douglass and his associates[9] stated that in 1,088 cesarean sections performed at the University of Maryland there were 55 maternal deaths, 3 of which were ether anesthetic deaths.

King[10] reported that in a collective series of 1,108 cesarean sections performed in New Orleans from 1927 to 1936 there were 64 maternal deaths, 1 from spinal anesthesia and 8 from pneumonia, although he does not list the pneumonia deaths as anesthetic fatalities.

Arnell,[1] in a discussion, mentioned that among 38,000 deliveries at New Orleans Charity Hospital spinal anesthesia was given to only 24 patients. However, it was responsible for 5 maternal deaths, a mortality rate of 20.8 per cent. Even more striking, of the 5 patients given spinal anesthesia during 1944 by physicians experienced in modern

TABLE 2.—*Comparative Hospital Statistics For Cesarean Section in Pregnancies Beyond 28 Weeks.*

Hospital	Years	Incidence %	Cesarean Section No.	Maternal Mortality %	Fetal Mortality No.	Fetal Mortality %
Brackenridge (Austin)	1941-1946	2.37	132	5.3	24	18.18
Seton (Austin)	1941-1946	3.18	153	0.65	11	7.19
Boston Lying-In	1931-1936	2.86	584	3.10	—	8.8
Philadelphia Lying-In	1932-1942	5.80	1,322	1.98	—	8.2
Chicago Lying-In	1942-1944	4.28	317	0.00	—	4.4
Long Island College Hospital (Brooklyn)	1941-1945		313	1.5	6	1.9

technique, 2 (40 per cent) died as a result of the anesthesia. In comparison, in the same institution spinal anesthesia was administered to 6,292 surgical (nonobstetrical) patients with a mortality of only 0.2 per cent.

At the Margaret Hague Maternity Hospital from 1931 to 1943 there were 23 cesarean section deaths. Norton[14] stated that 2 of these deaths were due to spinal anesthesia and 1 was attributed to ether anesthesia. Spinal anesthesia is expertly administered at the Margaret Hague Maternity Hospital.

Deaths are not the only complications of spinal anesthetics. Infections of the subarachnoid space, neuropsychiatric complications, spinal arachnoiditis, and paralyses are not infrequently reported.

In using spinal or caudal anesthesia, if the blood pressure drops to shock level and persists for several minutes, it may cause either cerebral injury or death in the fetus as the result of anoxemia. Huber,[7] of Indianapolis, in a discussion of a symposium on obstetrical anesthesia, reported that among 5 cesarean sections done with continuous caudal anesthesia, the blood pressure fell precipitously in 2 patients and the fetal heart rate likewise dropped. One of these infants died shortly after delivery and the other was abnormal, apparently the result of cerebral anoxemia.

In a collective survey I made at two hospitals in Austin, there were 292 cesarean sections performed from 1941 through 1946 with 8 maternal deaths. One of these deaths was caused by the aspiration of stomach contents during the operation under ethylene and ether anesthesia.

Table 2 gives comparative hospital statistics for cesarean sections performed in pregnancies beyond 28 weeks gestation. The fetal mortality in cesarean sections in those hospitals using local anesthesia is definitely lower than in those institutions that use inhalation and spinal anesthesia.

Light,[11] reported only 6 fetal deaths (1.9 per cent) in 313 cesarean sections performed at the Long Island College Hospital, Brooklyn, N. Y., and 83 per cent of the cesarean sections were performed using the local anesthesia technique presented here. None of the 6 fetal deaths was related to the anesthesia used.

At the Chicago Lying-In Hospital the fetal mortality in 317 cesarean sections was only 4.4 per cent, and the majority of the cesarean sections were performed under local anesthesia.

TABLE 3.—*Anesthetics Used For Cesarean Section, 1941-1946.*

Anesthetic	Brackenridge Hospital	Seton Hospital
Spinal	28	19
Ethylene	33	59
Ethylene-ether	6	58
Ether	0	2
Cyclopropane	61	15
Nitrous oxide-oxygen-ether	2	0
Local	1	0
Unknown	1	0
Total	132	153

At Brackenridge Hospital, Austin, there were 132 cesarean sections performed in six years with 24 fetal deaths (18.18 per cent fetal mortality, uncorrected). A review of the hospital records revealed that in at least 6 (25 per cent) of the fetal deaths there was no explainable cause of death except possibly the anesthetic agents used. In 5 cases the anesthesia was gas inhalation and in 1 spinal anesthesia was used. The remaining 18 fetal deaths among cesarean sections at Brackenridge Hospital and the 11 fetal deaths in 153 cesarean sections performed at Seton Hospital, Austin, had other possible causes of death such as prematurity, placenta previa, abruptio placenta, erythroblastosis, and se-

vere congenital anomalies incompatible with life. However, in many instances the anesthesia probably played an important contributory role in causing the fetal death, especially in those cases associated with prematurity, placenta previa, and abruptio placenta. There was only 1 cesarean section performed under local anesthesia in the six year period in both hospital surveys (table 3).

If there is to be a further decrease in both maternal and fetal mortality in cesarean section, a more general use of local anesthesia must be accepted by physicians performing the operations.

REFERENCES

1. Arnell, R. E., in discussion on Habeeb, A., and Elliott, H. R.: Cesarean Section Under Spinal Anesthesia, South. M. J. 38:381-386 (June) 1945.
2. Beck, A. C.: Detailed Technic of a Modified Local Anesthesia for Cesarean Section, Am. J. Obst. & Gynec. 44:558-569 (Oct.) 1942.
3. DeNormandie, R. L.: Five Year Study of Cesarean Section in Massachusetts, New England J. Med 227:533-538 (Oct. 18) 1942.
4. Douglas, R. G.: Study of Puerperal Mortality in New York City (1937-1940) with Especial Reference to Preventative Factors, Am. J. Obst. & Gynec. 41:529-534 (March) 1941.
5. Ginglinger, A.: Type of Anesthesia Employed for Cesarean Section, Bull. Soc. d'obst. et de gynec. 26:367-368 (April) 1937.
6. Gordon, C. A., and Rosenthal, A. H.: Personal communication.
7. Huber, C., in discussion on Symposium on Obstetrical Anesthesia, Am. J. Obst. & Gynec. 48:85-86 (July) 1944.
8. Johnston, R. A.: Critical Analysis of 22 Years Experience with Cesarean Section, Am. J. Obst. & Gynec. 49:576-590 (April) 1945.
9. Kahn, S. G.; Morrison, J. H.; and Douglass, L. N.: Cesarean Section: Analysis of 1,088 Consecutive Cases, West Virginia M. J. 41:49-52 (Feb.) 1945.
10. King, E. L.: Comparison of Two Cesarean Section Surveys Carried on in City of New Orleans, Am. J. Obst. & Gynec. 40:860-865 (Nov.) 1940.
11. Light, F. P.: Local Anesthesia for Cesarean Section, New York State J. Med. 17:48-52 (Jan. 1) 1947.
12. Lull, C. B.: Survey of Cesarean Section in Philadelphia, Am. J. Obst. & Gynec. 46:314-321 (Aug.) 1943.
13. Manahan, C. P.; Connally, H. F., Jr.; and Eastman, N. J.: Experience of Johns Hopkins Hospital with Cesarean Section, Am. J. Obst. & Gynec. 44:999-1009 (Dec.) 1942.
14. Norton, J. F.: Mortality Study of 187 Deaths in 66,376 Live Births, Am. J. Obst. & Gynec. 49:554-566 (April) 1945.
15. Pla, P., and Ricci, G.: Spinal Anesthesia in Cesarean Section, Biol. Soc. de Obst. y ginec de Buenos Aires 20:817-829 (Dec. 30) 1941.
16. Thompson, W. B., and Krahulik, E. J.: Death after Cesarean Section, West. J. Surg. 46:31-44 (Jan.) 1938.

408 West Fifteenth Street.

ABSTRACT OF DISCUSSION

Dr. Earl F. Weir, Dallas: I believe this paper is an honest attempt to reduce morbidity and mortality, especially in the poor risk patient coming to cesarean section.

I also believe that who is conducting the inhalation anesthetic procedure under these circumstances plays a prominent part. I must challenge the statement that shock, dehydration, and irritating effect usually accompany inhalation anesthesia. I have conducted many general anesthetic techniques in the grave type section where it seemed almost impossible to avert shock without any demonstration of it and know that in this audience I may secure verification of this statement. Dehydration may be completely counteracted by proper and adequate administration of fluids, and nonirritant agents can be employed to overcome the irritating effects on the respiratory passages. Certainly adequate precautions must be set up to care for vomited secretions and prevent their aspiration, but this complication I have seen during the short administration of nitrous oxide spoken of during one stage of the procedure as presented.

The two reactions encountered, infrequently it is true, to novocaine and novocaine-like drugs have not been mentioned, namely, (1) the "procainism" or vascular collapse manifestation and (2) the central nervous system effect on convulsions. In the poor risk patient these would undoubtedly prove disastrous. These, I believe, are frequently due to the inadvertent introduction of these drugs directly into a blood vessel. Therefore I urge, as has the essayist, extreme care in the performance of this technique.

SCALENUS ANTICUS AND CERVICAL RIB SYNDROME

JOSEPH M. DONALD, M. D.
Assistant Professor of Surgery, Medical College of Alabama
BIRMINGHAM, ALABAMA

The scalenus anticus syndrome is similar to the cervical rib syndrome. Symptoms and signs of compression of the brachial plexus and especially of the subclavian artery are apt to be more severe in the presence of a cervical rib. The incidence of scalenus anticus syndrome is much greater than that of the cervical rib. Women are affected more often than men, and the right side is more frequently involved than the left. Symptoms usually appear between the ages of 20 and 40 years. The cervical rib syndrome has been recognized for more than a century, but the so-called scalenus anticus syndrome has been established as a definite clinical entity only in the last twenty years.

The important role of the scalenus anticus muscle in the production of symptoms attributed formerly to a cervical rib, while referred to by Murphy[12] and others, was first clearly demonstrated by Adson and Coffey[2] in 1927. They found that section of this muscle was all that was necessary except in rare instances to relieve symptoms attributed to a cervical rib. They also recommended an anterior approach in the surgical treatment of the symptoms of cervical rib. They pointed out that the posterior approach which formerly had been used to remove a cervical rib had resulted in considerable traction on the nerve trunks and was more difficult to perform.

Adson[1], in 1933, referred to several cases of enlarged transverse cervical processes on the seventh cervical vertebra presenting symptoms similar to the cervical rib syndrome, which he and Craig relieved by dividing the insertion of the scalenus anticus muscle.

In 1935, Ochsner, Gage, and DeBakey[14] published a comprehensive study of the subject, and advanced the idea that "Scalenus Anticus Syndrome" is a definite clinical entity, the symptoms of which are identical

Read before the Section on Surgery, State Medical Association of Texas, Annual Session, Dallas, May 7, 1947.

with those of cervical rib. They credited Naffziger with being the first to section the scalenus anticus muscle for the relief of symptoms in the absence of a cervical rib.

Since 1935 there have been many valuable contributions to the literature which establish the scalenus anticus syndrome as a clinical entity and which add much to our knowledge of the etiology of this syndrome.[6,7,10,13,16,17] Cervical ribs are of infrequent occurrence (.056 per cent according to Adson.[1] They cause symptoms in approximately 10 per cent of the cases.[1, 20] They may be palpated as a bony prominence in the supraclavicular fossae, but the diagnosis is usually made by roentgen examination. Many cervical ribs are accidentally found on routine examinations, and if no symptoms are present the patients usually should not be informed of their presence. However, if the appearance suggests that the subclavian artery may be subject to trauma from the rib, the patient should be advised of its presence.

There have been many theories advanced in an attempt to explain the cause of the cervical rib and scalenous anticus syndrome. Todd[19] attributed symptoms to an abnormally low position of the shoulder and a high fixation of the sternum and ribs. Jones[9] expressed the belief that a low origin of the brachial plexus is responsible. Ochsner, Gage, and DeBakey[14] expressed the view that the exciting factor is an elevation of the first rib due to spasm of the scalenus anticus muscle resulting from brachial plexus irritation.

Adson[2] considers the scalenus anticus muscle as the most important structure in causing symptoms attributed to cervical rib.

Gage[6] has demonstrated that injection of the scalenus anticus muscle with procaine solution relieves the spasm and thereby temporarily relieves the symptoms due to the scalenus anticus syndrome. He advocates this procedure as a diagnostic and confirmatory test. Trauma has been emphasized as an important precipitating factor in the etiology by Aynesworth,[3] Naffziger,[13] Spurling,[16] Gage,[7] and other observers.

Swank and Simeone,[17] on the basis of anatomic studies of the scalene muscles, have classified the scalenus anticus syndrome into two main groups: (1) those of the superior type due to compression of the upper roots of the brachial plexus, principally of the sixth and seventh cervical nerves, by the tendons of origin of the scalenus anticus muscle, and (2) those of an inferior type, with which physicians are more familiar, due to compression of the lower roots of the brachial plexus, principally the eighth cervical and the first thoracic nerve, by the same muscle near its insertion.

They pictured the mechanism of compression as a vise, the ventral or anterior jaw of which is the scalenus anticus muscle. The dorsal or posterior jaw varies. In the superior type it is the transverse processes of the cervical vertebrae, whereas in the inferior type it is the scalenus medius or part of the scalenus anticus muscle. According to these observers, a cervical rib or long transverse process contributes to the dorsal part of the vise. Section of the scalenus anticus muscle removes the ventral jaw of the vise, rendering it ineffective.

Swank and Simeone reported 9 cases of the superior and 8 of the inferior type of syndromes. They stated that mixed types do occur but are rare.

Gage[7] and his associates have made extensive anatomic studies of the scalene muscles, which add much to our knowledge of the cause of the syndrome. They reported a high incidence of abnormalities in the scalenus anticus muscles. They found a scalenus anticus minor muscle present in 60 per cent of more than 100 cadavers dissected. This minor muscle was found to split off from the scalenus anticus muscle and pass downward and parallel to the posterior border of the anticus and insert itself into the first rib between the subclavian artery and the lower roots of the brachial plexus. Other abnormalities included that of the fifth, sixth, and seventh cervical nerves passing through the scalenus anticus muscle in 30 per cent of the dissections.

Gage[7] expressed the belief that these anomalies play a prominent and significant role in the etiology of the scalenus anticus syndrome of the superior type. He stressed spasm of the scalenus anticus muscle as being an important etiologic factor, as well as trauma which may not necessarily be severe.

Adson[2] attributed the vascular symptoms to pressure of the cervical rib and scalenus anticus muscle on the subclavian artery. Telford and Stopford[18] attributed vascular changes to irritation of the sympathetic fibers of the brachial plexus rather than to direct pressure on the artery.

SYMPTOMS

The symptoms of scalenous anticus and cervical rib syndrome are the result of irritation or compression of the brachial plexus and subclavian artery. The symptoms of brachial plexus compression are seen much more frequently than are those due to subclavian artery compression. It has been pointed out by many observers that symptoms of the scalenus anticus and cervical rib

syndromes are not always confined to the distribution of the lower cords of the brachial plexus.

Although the ulnar and median nerve distribution of symptoms is more frequently encountered, the entire brachial plexus may be involved at times. There are many variations in the distribution of symptoms in the upper extremity in this syndrome. This has been true of the cases I have studied. The symptoms frequently do not follow a definite pattern. There may be a mixture of the upper and lower types of the syndrome, although one or the other may predominate.

The most characteristic and common symptoms are pain and numbness, or tingling, in the involved extremity, slight to marked muscular weakness, and occasional atrophy. Pain is usually the greatest cause of disability. Pain varies in intensity. It may be sharp but is usually dull and aching in character, and is usually worse at night. The pain is commonly noticed in the shoulder and arm. It is usually felt along the distribution of the internal cutaneous, ulnar, and median nerves but occasionally over the distribution of the entire brachial plexus. It may be associated with hypesthesia, parasthesia, or anesthesia. These patients frequently complain of pains in the neck over the scapular region and occasionally over the pectoral region of the chest in addition to the arm and shoulder.

Atrophy is a late symptom and involves chiefly the interosseous muscles of the hand. It is observed more often in the presence of cervical rib. It is not a frequent finding in the absence of a cervical rib and is usually mild in degree. Frequently such patients complain of dropping objects from the involved hand. The hand grip is found to be weak in many instances. Vascular symptoms in the syndrome without cervical ribs are usually mild; however, a few cases of marked disturbance in circulation with thrombosis or gangrene have been reported.

In the usual case there may be a slight decrease in the pulse volume in the affected side. Difference in blood pressure readings on the two sides are usually not great and are not considered important. The various tests for obliteration of the radial pulse have not been found to be of great significance since the tests are frequently positive in asymptomatic cases.

Aneurysms of the subclavian artery distal to the cervical rib have been reported by MacFee[11] and Halsted and Reid.[8]

Intermittent obstruction of the subclavian vein has been reported but is a rare finding in this syndrome. Love[10] has observed this condition in several such cases which he has relieved by scalenotomy.

EXAMINATION

Examination of a patient with symptoms suggesting the scalenus anticus syndrome should include a careful palpation of the supraclavicular fossae for any abnormal prominence. The two scalenus anticus muscles should be compressed to detect any difference in degree of tenderness on the two sides. It is my belief that this is a very important sign. There has been a definitely increased tenderness over the insertion of the muscle in every case in which the diagnosis has been made in my series. Frequently the pain in the extremity is reproduced by scalenus anticus pressure. The muscles of the involved extremity should be examined for weakness, tenderness, and atrophy. A careful sensory examination should be made. The radial pulse should be examined for any differences on the two sides. Blood pressure readings should be made in the two arms.

Routine roentgen examinations for cervical rib or cervical spine arthritis should be made. This should include examination for any abnormality of the first rib.

DIAGNOSIS

The diagnosis of scalenus anticus and cervical rib syndrome is based on a history of pain, disturbance of sensation, and circulatory abnormalities in the upper extremities, with a finding of increased tenderness on pressure over the scalenus anticus muscles.

The pain is usually in the arm but may have a wide distribution about the shoulder and neck. Atrophy is usually a late manifestation and is more noticeable in the presence of a cervical rib. Circulatory disturbances are mild in most cases of the syndrome without a cervical rib but may be severe when a cervical rib is present. The findings of a cervical rib of sufficient length, associated with definite symptoms as outlined above, tend to confirm the diagnosis.

The diagnosis may prove difficult at times but is usually not difficult if the syndrome is kept in mind. Neurological and orthopedic consultations are frequently necessary in arriving at a diagnosis.

DIFFERENTIAL DIAGNOSIS

The conditions causing the most difficulty in differential diagnosis have been protrusion of cervical intervertebral disk, cervical arthritis, subacromial bursitis, and psychoneurosis.

Semmes and Murphey[15] reported 4 cases of unilateral rupture of the sixth cervical intervertebral disk with compression of the seventh cervical nerve root. Each of these patients gave a history of numerous cricks in the necks recurring intermittently for months or years preceding the attacks of radiating pain. In these patients the pain radiated to the precordium, to the scapula, and down the lateral and medial surfaces of the arm. All pain was intensified by moving the neck, coughing, sneezing, and straining. Numbness and weakness in the index finger and slight numbness in the middle finger were present in 3 patients. Coldness in the arm was also a prominent symptom.

The authors considered that hypertrophic arthritis or narrowing of the intervertebral disk seldom cause nerve root pressure and that hypertrophic changes may be due to rupture of the intervertebral disk. They concluded that an undetermined number of patients who heretofore have been thought to have coronary occlusion, angina pectoris, hypertrophic arthritis of the cervical spine, neuritis of brachial plexus, bursitis, scalenus anticus syndrome, or cervical rib have a rupture of one of the lower cervical intervertebral disks.

Evidence of cervical arthritis is frequently seen in patients with a protruded cervical disk. Ulnar nerve involvement is rare in protruded disks. Halter traction gives relief in these cases. Pain may be localized over the involved segment in the neck. The arm pain is usually deep as if in the bone. Circulatory disturbances are not associated with a protruded disk. I have 1 patient under observation at this time who had a scalenotomy elsewhere, and has had a recurrence of symptoms rather typical of ruptured cervical disk.

Freiberg[5] has pointed out the frequent occurrence of the scalenus anticus syndrome secondary to, or associated with, infectious or traumatic lesions of the shoulder or cervical spine. He advised conservative treatment in these cases and scalenotomy only if the scalenus anticus syndrome has been present for as long as three months.

TREATMENT

I have adopted a conservative policy in the management of the scalenus anticus and cervical rib syndrome. The majority of patients will respond to conservative therapy, which includes correction of posture, rest, avoidance of strain, physiotherapy, and analgesic drugs. Conservative treatment is indicated in the mild cases and those of short duration. It is known that the syndrome is characterized by remissions and exacerbations of symptoms in the mild cases. Psychoneurosis associated with the syndrome is a definite reason for conservatism in advising surgery.

In approximately 25 per cent of cases the symptoms are severe and disabling enough to warrant scalenotomy.

ANALYSIS OF CASES

In the past ten years I have operated on 42 patients with scalenus anticus and cervical rib syndrome. Sixteen of this number were reported in 1940.[4] Since the syndromes are similar the two conditions have been grouped.

The youngest patient was 15 years of age and the oldest was 55 years of age. There were 28 females and 14 males. The right side was involved in 20 patients, the left in 16, and the syndrome was bilateral at the time or at a later date in 6 cases. There were 8 patients with, and 34 patients without cervical ribs. The cervical rib was bilateral in all 8 cases. The symptoms were present on the left side in 5 cases, the right in 1, and bilateral in 2.

Gangrene was present in 2 of the patients with cervical rib. In 1 case only the finger tips were involved. In the other the entire hand and forearm were involved. Although atrophy was occasionally present in the intrinsic muscles of the hand in both syndromes, it was most marked in the cases with cervical rib.

It was considered advisable to remove the cervical rib in 4 of the 8 cases in addition to sectioning the scalenus anticus muscle. In each of the 4 cases the cervical rib was found to be pushing the subclavian artery forward and scalenotomy was not considered sufficient to relieve the pressure caused by the rib.

In several of the patients in this series, the scalenus anticus syndrome was associated with other lesions of the cervical spine or shoulder. One patient developed typical symptoms of a right scalenus anticus syndrome in 1941, associated with a right subdeltoid bursitis. The bursa was removed surgically without any relief of symptoms. Six months later a right scalenotomy was performed with immediate and permanent relief of symptoms. Five years later he developed symptoms of scalenus anticus syndrome on the left side associated with a left subdeltoid bursitis and neck symptoms suggestive of a protruded cervical intervertebral disk. Relief of the neck symptoms was obtained temporarily with halter traction. Physiotherapy and novocaine injections failed to relieve the symptoms of the bursitis. After six months of conservative treatment without relief, a scalenotomy was

done. Relief of symptoms has been excellent but the time interval is too short to determine the outcome. I operated on 1 patient, a nurse, in 1940 for a definite scalenus anticus syndrome on the left side. Relief of symptoms was immediate and permanent. She developed similar symptoms on the right side in 1946. A right scalenotomy was performed in January, 1947, with complete relief of symptoms.

The most constant symptoms in my series of cases were pain, numbness, increased tenderness on pressure over the scalenus anticus muscle on the involved side, slight to marked weakness, and occasional atrophy, especially of the intrinsic muscles of the hand. Pain varying in intensity, dull and aching in character was the most constant feature. The shoulder and arm were the most common sites of pain. Pain in the side of the neck, over the scapular region, and occasionally over the precordium was present in many of the patients, as well as being in the shoulder region and arm. Numbness along the distribution of the ulnar and median nerves was a frequent finding. The majority of the patients complained of weakness in the arm varying from a mild to a moderate degree. A weak hand grip and a complaint of dropping objects were significant findings. One patient with bilateral cervical rib syndrome developed a partial wrist drop on the right side.

Psychoneurosis was a definite factor in some of these patients. Trauma was also a definite factor in etiology, although it was never severe.

The operative technique was that described by Adson and Coffey.[2] Sodium pentothal has been my choice of anesthetic. Local infiltration with novocaine has been used in 11 cases. Bilateral scalenotomy in one stage was performed on 5 of the patients with no ill effects. The thoracic duct was accidentally torn in 1 patient. It was ligated and no after effects were noticed.

Spasm and hypertrophy of the scalenus anticus muscle has been a characteristic finding at operation in nearly every case.

I observed the lower cords of the brachial plexus passing through the scalenus anticus muscle in 1 patient.

I have been able to follow most of the 42 patients operated on. In most of the patients relief was obtained immediately after the scalenus anticus muscle was sectioned. The longest time required for relief after operation was six weeks in 1 case.

Four of the 42 patients have noticed mild recurrence of symptoms following operation. Two of the recurrences were in patients with cervical ribs.

SUMMARY AND CONCLUSIONS

1. The scalenus anticus syndrome is a clinical entity, identical with that of the cervical rib syndrome.

2. Symptoms of brachial plexus and especially subclavian artery compression are apt to be more severe in the presence of a cervical rib.

3. Although the ulnar and median nerve distribution of symptoms is more frequently encountered, there may be a wide distribution of symptoms involving other components of the brachial plexus.

4. The scalenus anticus syndrome may be associated with lesions of the shoulder or cervical spine.

5. A ruptured intervertebral cervical disk offers the greatest difficulty in the differential diagnosis. It is believed that this lesion occurs less frequently than does the scalenus anticus syndrome.

6. An analysis of 42 cases of scalenus anticus and cervical rib syndrome is reported. There were 8 patients with and 34 without a cervical rib in this series, which emphasizes the greater frequency of the scalenus anticus syndrome.

7. Symptoms of brachial plexus compression are observed much more frequently than are those of subclavian artery compression.

8. The cervical rib should be removed, in addition to scalenotomy, if the rib is found at operation to be pushing the brachial plexus and subclavian artery forward. Interference with the circulation in the extremity is a definite indication for removal of the rib.

9. Bilateral scalenotomy in one stage is a safe procedure and is recommended if the syndrome is bilateral.

10. Conservative treatment is recommended in mild cases and in those patients who are emotionally unstable.

11. The results following surgical treatment have been excellent.

12. Mild recurrence of symptoms were noticed in only 4 of the 42 cases followed. Two of the recurrences were in patients with cervical ribs.

REFERENCES

1. Adson, A. W.: Surgical Treatment of Cervical Ribs, Texas State J. Med. 28:739-747 (March) 1933.
2. Adson, A. W., and Coffey, J. R.: Cervical Rib; Method of Anterior Approach for Relief of Symptoms by Division of Scalenus Anticus, Ann. Surg., 85:839-857 (June) 1927.
3. Aynesworth, K. H.: Cervicobrachial Syndrome; Discussion of Etiology with Report of 20 Cases, Ann. Surg. 111:724-742 (May) 1940.
4. Donald, J. M., and Morton, B. F.: Scalenus Anticus Syndrome with and without Cervical Rib, Ann. Surg. 111:709-723 (May) 1940.
5. Freiberg, J. A.: Scalenus Anticus Muscle in Relation to Shoulder and Arm Pain, J. Bone & Joint Surg. 20:860-869 (Oct.) 1938.
6. Gage, M.: Scalenus Anticus Syndrome, Diagnostic and Confirmatory Test, Surgery 5:599-601 (April) 1939.

7. Gage, M., and Parnell, H.: Scalenus Anticus Syndrome, Am. J. Surg. 73:252-268 (Feb.) 1947.
8. Halsted, W. S., and Reid, M. R., cited by MacFee.[11]
9. Jones, F. W.: On Relation of Limb Plexus to Ribs and Vertebral Column, J. Anat. & Physiol. 44:377 (July) 1910.
10. Love, J. G.: Scalenus Anticus Syndrome, with and without Cervical Rib, Proc. Staff Meet. Mayo Clin. 20:65-70 (March) 1945.
11. MacFee, W. F.: Cervical Rib Causing Partial Occlusion and Aneurysm of Subclavian Artery, Ann. Surg. 111:549-553 (April) 1940.
12. Murphy, J. B.: Clinical Significance of Cervical Ribs, Surg., Gynec. & Obst. 3:514, 1906.
13. Naffziger, H. C., and Grant, W. T.: Neuritis of Brachial Plexus Mechanical in Origin; Scalenus Syndrome, Surg., Gynec. & Obst. 67:722-730 (Dec.) 1938.
14. Ochsner, A.; Gage, M.; and DeBakey, M.: Scalenus Anticus (Naffziger) Syndrome, Am. J. Surg. 28:669-695 (June) 1935.
15. Semmes, R. E., and Murphey, F.: Syndrome of Unilateral Rupture of Sixth Cervical Intervertebral Disk with Compression of Seventh Cervical Nerve Root, J.A.M.A. 121:1209-1214 (April 10) 1943.
16. Spurling, R. G., and Bradford, F. K.: Scalenus Neurocirculatory Compression, Ann. Surg. 107:708-715 (May) 1938.
17. Swank, R. L., and Simeone, F. A.: Scalenus Anticus Syndrome, Arch. Neurol. & Psychiat. 51:432-445 (May) 1944.
18. Telford, E. D., and Stopford, J. S. B.: Vascular Complications of Cervical Rib, Brit. J. Surg. 18:557-564 (April) 1931.
19. Todd, T. W.: Descent of Shoulder after Birth; Its significance in Production of Pressure Symptoms on Lower Brachial Plexus, Anat. Anz. 41:385 (June) 1912.
20. Torelli, G.: Observation in 100 Cases of Cervical Ribs, Obst. Internat. Surg. Digest 16:311 (Nov.) 1933.

SURGICAL TREATMENTS FOR THE RELIEF OF URINARY STRESS INCONTINENCE

J. T. ARMSTRONG, B. A., M. D.
HOUSTON, TEXAS

The most frequent type of involuntary loss of urine is commonly referred to as stress incontinence. Women suffering with this condition usually lose a small amount of urine at first, and then only after moderate to heavy exertion; however, most cases may be expected to increase in severity. These patients are very uncomfortable from being intermittently or constantly wet, the odor of urine is very unpleasant, and the irritation of the skin of the external genital area may be rather extensive. Some patients must resort to wearing a vulval pad almost constantly. Aldridge[2] very ably summarized the importance of this condition when he said, "It is not surprising that such an annoying condition results in depression and forces some of these women to regard themselves as social outcasts. To restore one of these unfortunates to a normal status in society by relieving her symptoms is always a surgical triumph."

It is essential that a careful study of the patient be made before any treatment is instituted, and all conditions that cause urinary incontinence should be considered. Conditions which produce an incontinence of urine are well known, namely, congenital anomalies of the urogenital system, urinary tract fistulas, certain diseases of the central nervous system, infections of the urinary tract, and a disturbance of the function of the normal urethral sphincter mechanism.

From the Gynecological Clinic of Herman Hospital and Department of Gynecology, Baylor University College of Medicine.

Read before the Section on Obstetrics and Gynecology, State Medical Association of Texas, Annual Session, Dallas, May 7, 1947.

It is the primary purpose of this paper to discuss urinary stress incontinence which is due to a disturbance of the function of the urethral sphincter mechanism. This disturbance is usually the result of obstetrical or surgical trauma. The recent concepts of the normal anatomy of the urethra in its relation to micturition, the pathologic changes which produce urinary stress incontinence, and the treatments recommended for its relief will be discussed.

ANATOMY OF URETHRA

Probably the greatest contributions to our knowledge of the anatomy of the urethra have been made by Kennedy,[6] who recently reported his studies of serial sections of the urethra taken at right angles to the canal and parallel to the canal at right angles to the sagittal plane of the body. He demonstrated the following:

1. The urethral sphincter is made up entirely of smooth muscle which is principally circular, together with some longitudinal fibers. It surrounds the urethra in its inner and middle thirds and functions as a sphincter only when in a circular position.

2. The levator ani muscle inserts into the urethra laterally and lifts the urethra to its normal position in the body, at which position the urethral sphincter is circular and continence of urine results.

3. A voluntary muscle which was named the muscle of micturition was described. Its origins are on the pubic rami above and lateral to the external urethral meatus; its insertions are into the trigone of the bladder; it receives its nerve supply from the pudenal plexus of nerves; and its function is to pull the trigone of the bladder and the inferior wall of the urethra downward and out. Since the superior wall of the urethra is firmly adherent to the under surface of the symphysis pubis, it remains fixed in position. As the muscle of micturition contracts, the inferior wall of the urethra slides forward, the urethral sphincter is pulled from a circular position to an elliptical position, and the urine runs out of the bladder. The levator ani is a direct opponent to the muscle of micturition. After the process of micturition has been completed, the muscle of micturition relaxes, the levator ani contracts and restores the urethra to its normal position where the smooth muscle sphincter again resumes its normal circular position and maintains continence of urine.

4. By use of roentgen-ray graphs, Ken-

nedy[5] demonstrated in women possessing normal bladders and urethras that during voiding the bladder and urethra were pressed down into the vagina, the urethral sphincter dilated, and the external urethral meatus moved out of the pelvis sometimes up to 1 cm. Comparative roentgen-ray graphs showed that the incontinent patient constantly remained in the voiding state.

PATHOGENESIS

Trauma incident to parturition is a common cause of urinary stress incontinence. Since the urethra and bladder rest loosely on the anterior vaginal wall, the descent of the fetus may cause contusion and separation of tissues of the anterior vaginal wall, bladder wall, and urethra. During the process of healing, the above mentioned structures may become adherent and fixed by scar tissue formation. Subsequent deliveries may cause more damage because the scar tissue, being less resilient, will be subjected to more tearing. If the injury is extensive, a cystocele and urethrocele will be formed which can be recognized as they fall down into the vagina. In such injuries, the smooth muscle sphincter of the urethra will be torn and displaced, and its function will be impaired. Although some patients possessing a cystocele and urethrocele are not incontinent, the sphincter of the urethra has escaped extensive damage. It is presumed that if the function of the levator ani is disturbed, the muscle of micturition will be unopposed, thereby keeping the urethral sphincter in an elliptical position, and an incontinence of urine will result.

Any condition which produces extensive scar tissue formation around the urethra will cause it to be distorted and anchored in an abnormal position, especially to the surface of the pubic rami, and interfere with its functions sufficiently to cause an incontinence of urine. Chief among these conditions are operative procedures such as plastic operations on the anterior vaginal wall, removal of diverticula of the urethra or tumors in the region of the urethra, and cauterization of urethral polyps and caruncles. Infections in the vicinity of the urethra or extensive pelvic cellulitis may also be etiologic factors.

OPERATIONS OF CHOICE

Numerous operations have been devised to overcome urinary stress incontinence. Plication of the posterior portion of the wall of the urethra in the region of the bladder neck, described by Kelly,[3] has probably been used more extensively than any other method. By this procedure, the vaginal wall is incised and the urethra is dissected free. The urethral sphincter is located by a mushroom catheter in the urethra, and the damaged sphincter is repaired by one or several interrupted mattress silk or linen sutures.

The high incidence of failures led to the development of more extensive procedures which employ wider dissection and greater mobilization of the bladder and urethra. The technique developed by Kennedy[4] is directed more toward the anatomic defects which produce incontinence. His technique reduces the caliber of the urethra, repairs any defect in the smooth muscle sphincter, and re-

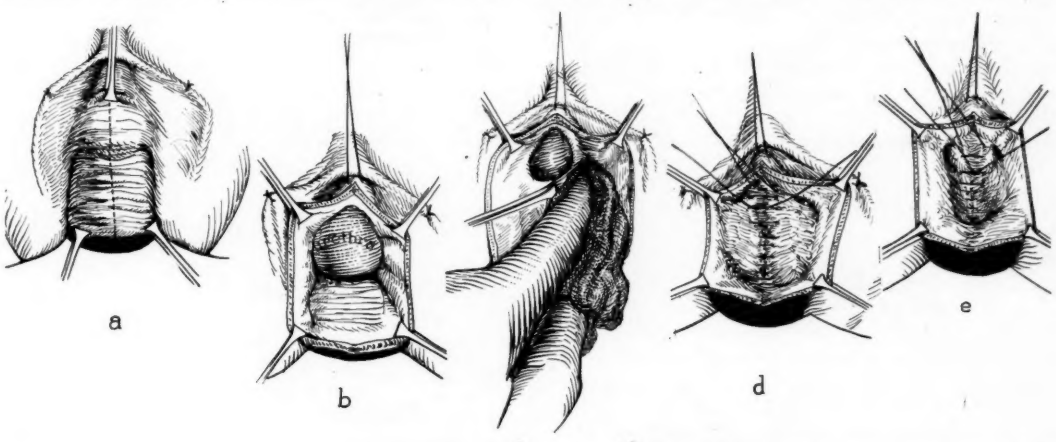


FIG. 1. The Kennedy technique of vaginal plastic repair for relief of urinary stress incontinence. Diagram *a* shows the anterior vaginal wall anterior to the cervix elevated by Allis forceps and the line along which the incision will be extended. Diagram *b* shows the incised vaginal wall retracted, illustrating the fascio-areolar cleavage plane and the exposed surface of the bladder and urethra. In *c* the undamaged connective tissue on the bladder surface is held under tension as a gauze covered finger mobilizes the bladder and urethra from the pubic rami and enters the perivesical spaces to a depth of about 6 cm. In *d* the first row of chromic No. 00 mattress sutures have been taken in the wall of the urethra and bladder. In *e* the second row of mattress sutures in the undamaged connective tissue covering of the bladder and urethra inverts the first row. Some cases may require additional sutures.

stores the urethra to its normal length and position where the muscle of micturition and levator ani can perform their functions properly. It also reconstructs a good support which maintains the bladder and urethra in their normal positions. Patients having stress incontinence are usually in need of other vaginal plastic repair which can be done at the same time the operaton for stress incontinence is performed. The cardinal points of the Kennedy technique are as follows:

The full thickness of the anterior vaginal wall is incised in the midline anterior to the cervix, thereby exposing the under surface of the bladder. There is a natural fascio-areolar plane of cleavage between the connective tissue layers on the bladder and the inner surface of the vaginal wall. This plane can be entered best if the vaginal wall anterior to the cervix is elevated with two Allis forceps and massaged between the tips of the thumb and index finger before being incised with scissors. If the operator can stay in this cleavage plane, bleeding will be minimized because the larger blood vessels in this area are on the surface of the bladder and will be reflected intact with it. Great care must be exercised when dissecting in the midline because adhesion formation is greatest here, and the bladder may be entered by tearing its wall. The incision is then carried forward to about 1.5 cm. from the external urethral meatus. With a gauze cov-

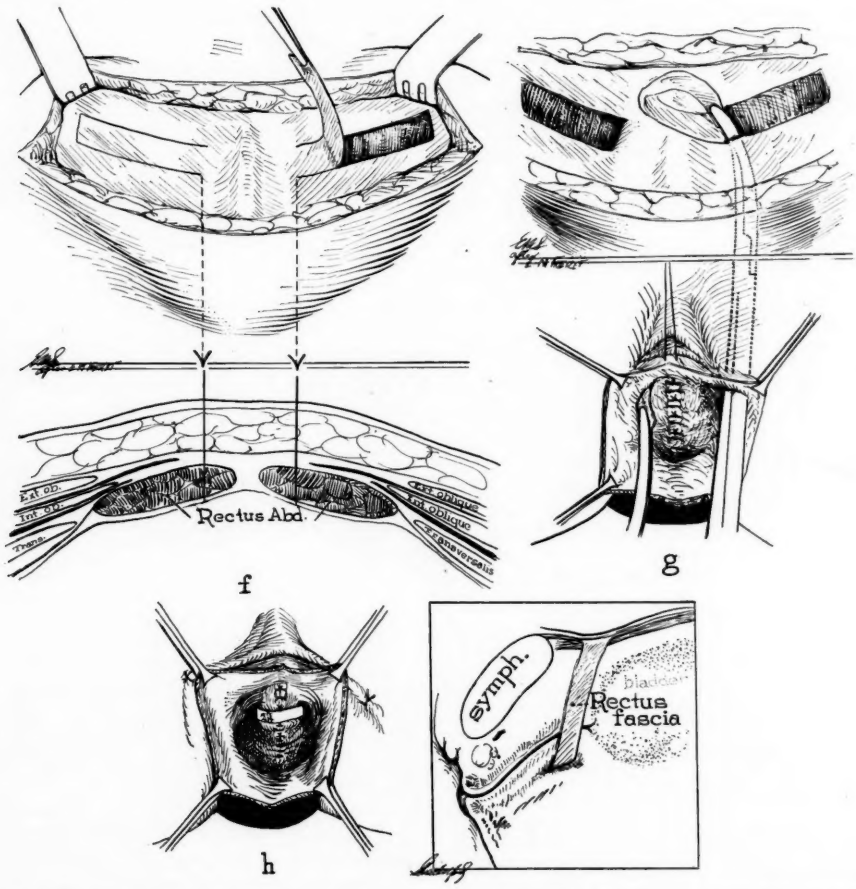


FIG. 2. The Aldridge operation employing transplantation of fascia for relief of urinary stress incontinence. In *f* the transverse incision is 3 cm. above the symphysis pubis and extends down to the rectus sheaths and the fascia of the external oblique muscles. The fascial strip is 1.5 cm. wide, 6 cm. long, and extends to about 2 cm. from the medial border of the rectus abdominis muscle. The lower diagram shows the future course of the fascial strip through the rectus abdominis muscle. In *g* plication of the bladder and urethra have been completed. One fascial strip has been brought down into position. A curved forcep is shown in position lateral to the urethra, back of the symphysis pubis, and through the rectus abdominis muscle. The strip is brought down by withdrawing the curved clamp. In *h* the two strips of fascia have been united by sutures at the junction of the bladder and urethra. The inset diagrammatically illustrates the new anatomic relations. Contraction of the rectus abdominis muscles will exert tension on the sling and compress the urethra.

ered finger, the dissection is carried upward and laterally into the perivesical spaces for a distance of about 6 cm. and under the pubic rami to free the urethra. The operator must stay close to the pubic rami because adhesions are sometimes quite dense, especially if a previous operation has been performed. If the urethra is torn, a fistula may result.

After the dissection is complete, the surface of the bladder and urethra in the midline where the defect exists will be rough and granular in appearance. The rough granular surface is actually the musculature of the bladder and urethra, but laterally their glistening connective tissue covering may be seen. Plication along the under surface described is accomplished best by use of No. 00 chromic catgut suture on an atraumatic curved intestinal needle. Interrupted mattress sutures are used; progressing anteriorly from the surface of the bladder along the under surface of the urethra almost to the limit of the incision in the vaginal wall. A second row should approximate in the midline the edges of the undamaged connective tissue covering of the bladder and urethra previously described.

Bleeding should be controlled before closure because subsequent organization of the clot will result in excess scar tissue formation which will anchor the urethra to the pubic rami and result in a lateral fixation of the urethra and an operative failure. The urethra must be maintained in a midline position if success is to be obtained. A strip of iodoform gauze, .25 inch wide, is placed in each perivesical space and brought out along the side of the urethra through the vaginal wall in closing the mucosa. The purpose of the gauze is to prevent the collection of blood and serum, and the ends are left available so they can be removed after twenty-four hours. A strip of vaginal wall on either side of the midline is removed to prevent redundancy after closure. Interrupted fine chromic catgut sutures are used to close the vaginal wall starting anteriorly and progressing toward the cervix. During the closure, a fine silver wire suture is passed through the vaginal wall on one side and out on the other at the level of the attachment of the levator ani muscle which can be located laterally because it produces a distinct dimpling of the vaginal wall at the point of attachment. Some operators do not use the silver wire, but when used, it is removed in about twelve days. A vitallium retention catheter[7] which is held in place by a vaginal bar incorporated in a vaginal pack is inserted into the bladder and allowed to remain for seven or eight days.

In 1942 Aldridge[1] described an operation employing transplantation of fascia for the relief of urinary stress incontinence. It is combined with the vaginal plastic procedures which are used for the same purpose from below. It is advocated for use in those cases that have resulted in one or more failures when the more conventional vaginal plastic procedures were used. Studdiford[8] claimed that in carefully selected cases fascial transplantation may be used as the primary operation of choice.

In the Aldridge operation, the anterior vaginal wall is incised in the midline, and the vaginal wall is then reflected from the under surface of the bladder and urethra. By blunt dissection, using the finger tip, the perivesical space is entered on either side. The dissection is then carried anteriorly and upward inside the pubic rami lateral to the urethra and behind the symphysis pubis. The operator must stay very close to the rami and symphysis, and all scar tissue must be divided with great care because the urethra and bladder may be injured. The under surface of the urethra and bladder are plicated as previously described. After the vaginal preparation has been completed, the fascial strips are prepared for transplantation.

A Pfannenstiel incision is made through the skin and subcutaneous tissue of the anterior abdominal wall about 3 cm. above the upper border of the symphysis pubis to expose the anterior sheaths of the rectus abdominis muscles and the aponeuroses of the external oblique muscles. The lateral limits of the incision are just above the anterior superior iliac spines. A strip of the aponeurosis of the external oblique muscle about 1.5 cm. wide and approximately 6 cm. long is outlined and detached at its lateral limit. As the strip is reflected medially, it will fuse with the aponeurosis of the internal oblique muscle, which is detached from its muscle at the lateral border of the rectus sheath. The strip is carried to about 2 cm. from the midline. A similar strip is made on the opposite side.

A curved clamp is introduced from below through the space previously prepared lateral to the urethra and back of the symphysis and is passed through the substance of the rectus abdominis muscle about 2 cm. from the midline and 3 cm. above the symphysis pubis. The free end of the fascia is grasped with the forcep, which is then withdrawn. The same maneuver is repeated on the opposite side. The ends of the strips are united by use of interrupted sutures of fine silk or catgut at the junction of the urethra

and bladder. Enough tension should be exerted by the fascial sling to elevate the bladder neck to a position behind the symphysis.

The defects in the aponeuroses of the external oblique muscles and rectus sheaths are closed satisfactorily with a continuous chromic suture, and the subcutaneous tissue and skin are closed with the operator's method of choice. After the fascial sling is secure, the vaginal wall is closed and a retention catheter is inserted into the bladder and allowed to remain for from five to seven days.

CONCLUSIONS

1. Urinary stress incontinence is the most frequent type of involuntary loss of urine. It is the result of damage to the normal urethral sphincter mechanism. Other conditions which produce incontinence of urine are listed briefly. They should be eliminated before any operative correction is attempted.

2. Newer concepts of the anatomy of the urethra are discussed. The urethral sphincter is entirely smooth muscle and surrounds the inner and middle thirds of the urethra. Striated muscle which may be seen in cross sections of the urethra is not a voluntary sphincter muscle. It is actually part of a muscle only recently identified and described. It has been called the muscle of micturition whose origins, insertions, nerve supply, and function are discussed.

3. Trauma incident to parturition is the most frequent cause of the damage to the urethral sphincter mechanism which results in urinary stress incontinence. Other etiologic factors are also discussed.

4. Kennedy's technique of vaginal plastic repair for the relief of urinary stress incontinence is described. It is thought that this is the procedure of choice because it more anatomically reduces the caliber of the urethra, repairs the damaged urethral sphincter, and restores to and supports the urethra and bladder in their normal positions where the muscle of micturition and levator ani muscle may normally perform their functions. At this position the urethral sphincter may resume its normal circular relation to the lumen of the urethra.

5. Failures sometimes occur after vaginal plastic operations which are employed for the correction of urinary stress incontinence. An operation employing transplantation of fascia from the anterior abdominal wall under the urethra at the junction of the urethra and bladder is described. It is used in combination with a vaginal plastic operation and has its greatest value in cases that have resulted in failure after one or more attempts have been made by vaginal plastic repair. It is not advocated as a primary operation.

REFERENCES

1. Aldridge, A. H.: Transplantation of Fascia for Relief of Urinary Stress Incontinence, Am. J. Obst. & Gynec. 44:398 (Sept.) 1942.
2. Aldridge, A. H.: Evaluation of Methods for Treatment of Urinary Incontinence, Am. J. Obst. & Gynec. 51:299 (March) 1946.
3. Kelley, H. A.: Gynecology, New York and London, D. Appleton & Co., 1928, p. 821.
4. Kennedy, W. T.: Incontinence of Urine in Female, Urethral Sphincter Mechanism, Damage of Function, and Restoration of Control, Am. J. Obst. & Gynec. 34:576 (Oct.) 1937.
5. Kennedy, W. T.: Urinary Incontinence Relieved by Restoration and Maintenance of Normal Position of Urethra, Am. J. Obst. & Gynec. 41:16, (Jan.) 1941.
6. Kennedy, W. T.: Muscle of Micturition, Am. J. Obst. & Gynec. 52:206 (Aug.) 1946.
7. Kennedy, W. T.: Retention Catheter, Am. J. Obst. & Gynec. 52:506 (Sept.) 1946.
8. Studdiford, W. E.: Further Experience in Use of Transplanted Abdominal Fascia in Relief of Stress Incontinence, Am. J. Obst. & Gynec. 50:119 (Aug.) 1945.

4115 Fannin Street

ABSTRACT OF DISCUSSION

Dr. Howard Smith, Marlin: Dr. Armstrong has given an enlightening discussion of this subject with a fine exposition of Dr. Kennedy's work and operations, and the Aldridge type of fascial strip operation. So many and varied are the concepts of the anatomy of the female urethra and variations of operations for the correction of stress incontinence, that even a small part of this subject could not be given in a paper of this kind.

In 1927, Norman Miller, professor of obstetrics and gynecology at the University of Michigan, reviewed the operative procedures in use at that time, and since then he has given much study to this subject. In a personal communication recently, Dr. Miller stated that he was convinced that we do not yet understand enough about the mechanism of micturition to speak dogmatically about it, and that no one operation yet devised is entirely satisfactory.

Allen C. Barnes, working at the University of Michigan, devised a method of evaluating the stress of urinary incontinence which has been helpful in deciding upon the procedure most applicable to the individual case.*

In 1931, H. W. Johnston, of Toronto, published an article† reporting a careful study of incontinence in women following childbirth and giving the result of his dissections. He believed definitely that he could dissect out a sphincter urethral muscle from between the layers of triangular ligaments, which had a very definite size and could be developed just as the sphincter ani can be, even many years after a third degree laceration. He thought that most of these patients could be cured with a suture of this external sphincter of the urethra, and with support of its surrounding structures. He believed that his operation along with the so-called Kelly stitch, which Dr. Howard Kelly reported in 1911, would produce a cure in a larger percentage of patients.

However, a review of the literature indicates that no fair minded gynecologist can honestly report less than a 20 per cent failure in the over-all cure of stress incontinence.

In 1932 Van Dusen in collaboration with William W. Looney, professor of anatomy at the Baylor School of Medicine, Dallas, published what I believe to have been the best information for the gynecologist on the anatomy and the physiology of the female bladder up to that time, and probably up to the present.

Failure to understand the anatomy and physiology

*Barnes, A. C.: Method for Evaluating Stress Urinary Incontinence, Am. J. Obst. & Gynec. 40:381-390 (Sept.) 1940.

†Johnston, H. W.: Urinary Incontinence following Childbirth; Its Surgical Treatment, Surg., Gynec. & Obst. 53:97-101 (July) 1931.

of the bladder is bound to result in continued leakage or irritability, residual urine, and poor control of the sphincter mechanism. This cannot be determined without a cystoscopic examination. I believe that it is utterly foolish for the gynecologist to attempt to do any type of operation for incontinence unless he either is qualified to make a cystoscopic examination and properly to interpret the findings or is able to have a competent urologist do the examination for him.

I shall not go into detail concerning the cystoscopic findings in the case of a tear of the triagonal muscle, but would like to call attention to an operation for the repair of the torn triagonal muscle described in Crossen and Crossen's "Operative Gynecology."* Originally reported in the *Southern Medical Journal*,† the description gives due credit to Drs. Van Dusen, Looney, Royston, and Rose. This modification of the operation combined with the so-called Kelly's mattress stitch can be used in conjunction with any standard cystocele repair.

Before this problem is ultimately licked, it will be necessary to know a good deal more, in all probability, about the detrusor mechanism, as well as the shut off mechanism in micturition. I would like to emphasize that every patient with incontinence requires a careful preliminary study in evaluation. Too frequently the surgeon assumes that after tightening up the urethra all will be well. Many patients have undergone surgery once or twice without result, and it is quite clear that the symptom is a problem not yet entirely solved.

*Crossen, H. S., and Crossen, R. J.: Operative Gynecology, ed. 5, St. Louis, C. V. Mosby Company, 1938, p. 546.

†Van Duzen, R. E.: Cystoscopic Appearance of Various Types of Cystoceles, South. M. J. 23:580-587 (July) 1930.

PAROXYSMAL VENTRICULAR TACHYCARDIA, WITH SPECIAL REFERENCE TO TREATMENT

MILTON R. HEJTMANCIK, M. D., and
GEORGE R. HERRMANN, M. D.
GALVESTON, TEXAS

Paroxysmal ventricular tachycardia is a relatively rare but as a rule a serious increase in heart rate originating in a temporary abnormal pacemaker that develops in ischemic and damaged ventricular tissues. Although occasional benign cases have been reported in young persons with apparently normal hearts, the disorder generally occurs in patients with serious organic heart disease. The most common precipitating causes are myocardial infarction and digitalis toxicity. It is important to recognize and interrupt the rapid heart action because the added strain may cause failure if allowed to continue. In addition, ventricular tachycardia may be the immediate precursor of ventricular fibrillation, as pointed out by Herrmann and Ashman[1a] and Wiggers.[16]

Suggestive clinical signs for suspecting the condition have been enumerated by Levine.[6] However, the only method of certain diagnosis is by the electrocardiographic criteria, which were first set down by Robinson and Herrmann.[9] In a tachycardia with abnormally broad QRS complexes, the demonstration of an independent, usually slower, atrial rhythm establishes the diagnosis beyond question. Whenever the form of isolated ventricular beats occurring before or after the paroxysms closely resembles the complexes of the tachycardia, the diagnosis is highly favored. An atrial tachycardia with concomitant bundle branch block must be ruled out. Cooke and White[2] considered that onset of the tachycardia with an abnormal ventricular complex or occurrence of a paroxysm of abnormal ventricular complexes during atrial fibrillation were each sufficient to establish the diagnosis.

Our present interest in paroxysmal ventricular tachycardia has been aroused by the development of more promising methods of treatment for the control of the disorder in emergency situations and of subsequent management to prevent recurrence. An evaluation of the effectiveness of therapy in the cases that we have recently controlled successfully and in all of the cases that we have had in the Cardiovascular Service of the University of Texas seemed worth while.

TABLE 1.—*Etiology of 20 Cases of Paroxysmal Ventricular Tachycardia.*

Acute myocardial infarction	8
(Hypertensive cardiovascular disease 4)	
Coronary sclerosis without infarction	6
(Hypertensive cardiovascular disease 2)	
Acute glomerulonephritis	1
Chronic rheumatic heart disease	2
Rheumatic heart disease with subacute bacterial endocarditis	1
No organic heart disease	2

PRESENT STUDY

A series of 20 cases of paroxysmal ventricular tachycardia has been analyzed, diagnosis being established in each case by using the above electrocardiographic criteria. Six-

TABLE 2.—*Role of Digitalis in 20 Cases of Paroxysmal Ventricular Tachycardia.*

Definite toxicity	3
Probable toxicity	4
No toxicity with moderate dosage	2
No digitalis	11

teen of the cases were seen in the John Sealy Hospital in the past eighteen years, and 4 elsewhere. Three from the John Sealy Hospital were previously reported by E. H. Schwab.[12]

The average age of patients in the series was 52.8 years, the youngest being 18 and the oldest 80. The type of heart disease present is summarized in table 1, and the role of digitalis in precipitating the paroxysms is evaluated in table 2. Coronary artery dis-

From the Cardiovascular Service, University of Texas Medical Branch.
Read before the Texas State Heart Association, Dallas, May 5, 1947.

ease was present in 70 per cent of the cases.

The rates of the tachycardia varied between 110 and 220, with an average of 170. No correlation was observed between rate and prognosis. Three cases were of the intermittent type, with runs of four to ten premature ventricular beats. In 4 instances the ventricular tachycardia occurred with atrial fibrillation.

Fifteen of the cases were associated with signs of congestive failure. Three patients showed cerebral manifestations, 2 due to the tachycardia itself, and 1 secondary to cerebral embolism. One of these had generalized convulsive seizures, and another had attacks of syncope. One of the patients with apparently normal hearts complained of precordial burning, and 1 had no symptoms referable to the disorder.

TABLE 3.—*Results of Treatment of Paroxysmal Ventricular Tachycardia.*

Type Therapy	No. Episodes	Reverted
No specific	4	1 (3 died)
Oral quinidine	12	10
Intravenous quinidine	2	1
Intravenous morphine	2	1
Intravenous quinidine and digitalis	1	1
Intravenous morphine and carotid stimulation	1	1

The emergency therapy results in termination of the paroxysms are summarized in table 3. In 3 of the 4 patients receiving no specific therapy, the disorder persisted until death. Ten out of 12 cases reverted on quinidine given orally, the amount required varying greatly, from 0.6 Gm. to 5.2 Gm. in twenty-four hours. The average given in the 10 cases in the twenty-four hour period before reversion was 1.5 Gm., only 4 requiring more than 2.5 Gm. In 1 patient with acute myocardial infarction, the rhythm was not abolished with 11.8 Gm. of oral quinidine over a period of four days, and the patient died.

Two patients in critical condition following myocardial infarction were given quinidine intravenously. One had not responded to intravenous dosages of morphine of 11, 11, and 32 mg., and oral quinidine totaling 2, 5, and 3.3 Gm. on three successive days. This patient reverted to normal rhythm after 1.7 Gm. of quinidine sulfate was given by slow intravenous drip. Another patient, who was admitted in shock, showed no change in rhythm after being given 0.6 Gm. of quinidine sulfate intravenously in 10 cc. of distilled water, and died in about an hour. One patient under treatment for subacute bacterial endocarditis was given 1.0 Gm. of quinidine sulfate intravenously in divided doses over a period of twelve hours, and then reverted to normal rhythm after 1.2 mg. of Cedilanid intravenously. The intravenous injection of 16 mg. of morphine sulfate resulted in immediate cessation of the abnormal rhythm in 1 case with myocardial infarction. In another patient, the ventricular tachycardia reverted to sinus rhythm on carotid sinus pressure six minutes after 45 mg. of morphine sulfate was given intravenously, having previously been unaffected by repeated carotid sinus stimulation and 32 mg. of morphine.

In table 4 are listed the results attained in checking ventricular tachycardia in the various types of heart disease. Although 6 of the 7 patients with digitalis toxicity had reversion of the tachycardia, all but 1 had died within a week. The 2 cases with no demonstrable heart disease were successfully treated, 1 with small and 1 with large oral doses of quinidine.

TABLE 4.—*Results of Treatment of Paroxysmal Ventricular Tachycardia in Regard to Etiology.*

Type Heart Disease	No. Episodes	Reverted	Alive, 1 Week.
Acute myocardial infarction	8	5	3
Coronary sclerosis without infarction	6	4	4
Digitalis toxicity	7	6	1
Acute glomerulonephritis	1	0	0
Chronic rheumatic heart disease	2	2	1
Rheumatic heart disease with subacute bacterial endocarditis	1	1	0
No organic heart disease	2	2	2

After reversion of the tachycardia, 12 patients were maintained on quinidine sulfate orally, in doses of from 0.6 to 1.0 Gm. daily. One of these patients has been maintained on quinidine for six years without toxic or harmful effect, and without recurrence since the first year. In 10 cases paroxysmal ventricular tachycardia did not recur on this maintenance regime. However, 4 of these patients died within a week in spite of the established normal rhythm. In 1 case, reverted with morphine, even small doses of quinidine were found to prolong the QRS complex more than 25 per cent, and this patient has been effectively maintained on moderate doses of potassium iodide for myocardial sedation.

DISCUSSION

It seems rational to consider paroxysmal ventricular tachycardia as an emergency situation in itself, and to make every attempt to stop it and restore normal mechanism as soon as possible. The clinical improvement usually seen upon reversion indicates that the seriously diseased heart is frequently barely able to support the increased burden imposed by the rapid rate. Mild to profound shock-like states may result from decreased cardiac output. Cerebral symptoms may develop, on the basis of cerebral anoxia, as

pointed out by Barnes.[1] Precordial pain or discomfort is rarely a symptom of the tachycardia alone, according to Williams and Ellis.[17] Usually precordial distress is a part of the myocardial infarction which has been complicated by the tachycardia. The myocardial ischemia may be aggravated by impaired coronary filling and increased cardiac work incident to the tachycardia.

Quinidine has come to be regarded as a specific in the control of paroxysmal ventricular tachycardia, although the dosage required varies greatly. Its action is directly on the heart muscle. Adequate dosage is to be stressed, as occasional patients require large amounts of oral quinidine before reversal. Weisman[15] demonstrated that an average single oral dose of quinidine produces a maximum concentration in the myocardium in an hour, and is completely eliminated in eight hours. It should be given orally in from 0.2 to 0.4 Gm. doses each one to two hours until the abnormal rhythm is abolished. The largest dose in this series was 5.2 Gm. in twenty-four hours. Considerably larger doses have been required to terminate the disorder, for example, 7.5 Gm. in a day by Levine.[6]

Complications of quinidine administration have been reported, and frequent electrocardiograms are indicated to anticipate serious untoward effects and to judge effectiveness of therapy. Reich[7] emphasized the evaluation of the duration of the QRS complex to prevent serious cumulative effects. Although we have had no fatalities which could be definitely ascribed to quinidine, we have been reluctant to administer it after the QRS complex has been prolonged more than 25 per cent. In rare instances quinidine therapy has resulted in sudden death, on the basis of embolism at time of reversion of atrial fibrillation or of cardiac standstill caused by its depressant action. It has been rarely shown actually to produce ventricular tachycardia, and Schwartz and Jezer[13] implicated quinidine as a causative factor of transient ventricular fibrillation in 2 patients. Kerr[5] is skeptical of the value of quinidine in most ventricular tachycardias. He questioned its use following myocardial infarction because of the danger of producing ventricular fibrillation by further depression of a possibly damaged conduction mechanism.

The intravenous use of quinidine has been favorably reported by Hepburn and Rykert[4], with success in 8 out of 9 cases. Their method of administration, the same as used in the successful case in this series, consisted of dissolving 3.5 Gm. of quinidine sulfate in 500 cc. of 5 per cent glucose, slightly warmed, and giving the solution intravenously at from 100 to 120 cc. per hour. The method is to be recommended when oral medications cannot be taken and when the condition of the patient is critical. Quinidine lactate is apparently as effective as other quinidine salts, and is preferable for parenteral use because of its greater solubility. It is supplied in ampules of 0.65 Gm. dissolved in 10 cc. of sterile saline solution. For intravenous use it should be diluted with 50 cc. of 5 per cent glucose and given slowly at from 1 to 2 cc. per minute.

When digitalis is implicated as a probable precipitating factor, it should of course be withheld. Occasional cases respond only to both quinidine and digitalization, as did 1 patient of this series. It would seem that small quantities of quinidine may be of value in preventing the onset of the disorder following acute myocardial infarction. Appearance of premature ventricular contractions or necessity for digitalization after myocardial infarction would be a definite indication for prophylactic quinidine. Ouabaine and digitoxin appear to be the preferable cardiotonics, as they seem to be less likely to cause increased ventricular irritability.

A maintenance dosage of quinidine after the rhythm has been abolished is highly desirable and almost imperative to prevent the return of the paroxysms. It should be continued for several days or weeks. The size of the dose must be adjusted for the patient. Some cases are controlled with small doses of 0.2 Gm. every six hours, while others may require larger doses more frequently administered.

The intravenous use of morphine in the treatment of paroxysmal ventricular tachycardia has been advocated by Dr. Luis Gonzalez Sabathie[10] of Argentina, who first noted success in a case resistant to intravenous quinidine, and then achieved favorable results in 9 out of 10 cases. The mechanism of its action is somewhat obscure. The vagus nerves have little effect below the A-V bundle, and clinical doses of morphine do not affect the myocardium directly, according to Goodman and Gilman.[3] Morphine sulfate intravenously seems to be worthy of trial before the use of any other drug.

Other drugs have been reported as of value in certain cases, but their effect has not been consistent in terminating the tachycardias. In rare cases Levine[6] has noted restoration to normal rhythm upon a large subcutaneous dose of atropine while the rate is partially slowed by quinidine. The efficacy of intramuscular quinine hydrochloride has been reported by Riseman and Linen-

thal.[8] Potassium chloride has been used with success orally by Stempien and Katz[14] and Sampson and Anderson.[11] Intravenous magnesium sulfate has likewise been suggested by Boyd and Scherf.[1a]

SUMMARY

1. Twenty cases of paroxysmal ventricular tachycardia are analyzed with reference to type of organic heart disease and response to treatment. Acute myocardial infarction or digitalis toxicity was present in 15 of the patients. Two cases occurred in patients with apparently normal hearts.

2. Electrocardiographic criteria for diagnosis are given.

3. Complications of the paroxysms are discussed, with stress laid on the frequent emergency aspect of the condition. Prognosis is generally serious because of the frequent severity of the underlying myocardial damage.

4. Methods of therapy are summarized, with description of successes attained by oral quinidine, intravenous quinidine, and intravenous morphine. Adequate quinidine therapy is concluded to be indicated in each case not showing toxicity or idiosyncrasy to quinidine. Intravenous morphine has recently shown favorable results and seems worthy of trial before the use of any other drug. Maintenance doses of quinidine after reversion are almost imperative as long as excess irritability of the myocardium exists.

REFERENCES

1. Barnes, A. R.: Cerebral Manifestations of Paroxysmal Tachycardia, Am. J. M. Sc. 171:489-495 (April) 1926.

1a. Boyd, L. J., and Scherf, D.: Magnesium Sulfate in Paroxysmal Tachycardia, Am. J. M. Sc. 206:43-48 (July) 1943.

2. Cooke, W. T., and White, P. D.: Paroxysmal Ventricular Tachycardia, Brit. Heart J. 5:33-54 (Jan.) 1943.

3. Goodman, L., and Gilman, A.: Pharmacological Basis of Therapeutics, New York, Macmillan Company, 1941.

4. Hepburn, J., and Rykert, H. E.: Use of Quinidine Sulfate Intravenously in Ventricular Tachycardia, Am. Heart J. 14:620-623 (Nov.) 1937.

4a. Herrmann, G., and Ashman, R.: Partial Bundle-Branch Block; Theoretical Consideration of Transient Normal Intraventricular Conduction in Presence of Apparently Complete Bundle-Branch Block, Am. Heart J. 6:375-403 (Feb.) 1931.

5. Kerr, W. J., in Stroud, W. D.: Diagnosis and Treatment of Cardiovascular Disease, Philadelphia, F. A. Davis Company, 1940.

6. Levine, S. A.: Clinical Heart Disease, ed. 3, Philadelphia, W. B. Saunders Company, 1946.

7. Reich, N. E.: Successful Use of Massive Dose of Quinidine in Case of Intractable Ventricular Tachycardia, Am. Heart J. 28:256-260 (Aug.) 1944.

8. Riseman, J. E. F., and Linenthal, H.: Paroxysmal Ventricular Tachycardia; Its Favorable Prognosis in Absence of Acute Cardiac Damage and Its Treatment with Parenterally Administered Quinine Dihydrochloride, Am. Heart J. 22:219-229 (Aug.) 1941.

9. Robinson, G. C., and Herrman, G. R.: Paroxysmal Tachycardia of Ventricular Origin, and Its Relation to Coronary Occlusion, Heart 8:59 (Feb.) 1921.

10. Sabathie, L. G., personal communication.

11. Sampson, J. J., and Anderson, E. M.: Treatment of Certain Cardiac Arrhythmias with Potassium Salts, J.A.M.A. 99:2257-2261 (Dec. 31) 1932.

12. Schwab, E. H.: Observations on Etiology and Treatment of Paroxysmal Tachycarda, Am. Heart J. 6:404-415 (Feb.) 1931.

13. Schwartz, S. P., and Jezer, A.: Action of Quinine and Quinidine on Patients with Transient Ventricular Fibrillation, Am. Heart J. 9:792-801 (Aug.) 1934.

14. Stampien, S. J., and Katz, K. H.: Quinidine and Potassium in Treatment of Refractory Paroxysmal Ventricular Tachycardia, Am. Heart J. 24:555-558 (Oct.) 1942.

15. Weisman, S. A.: Studies on Time Required for Elimination of Quinidine from Heart and Other Organs, Am. Heart J. 20:21-23 (July) 1940.

16. Wiggers, C. J.: Mechanism and Nature of Ventricular Fibrillation, Am. Heart J. 20:399-412 (Oct.) 1940.

17. Williams, C., and Ellis, L. B.: Ventricular Tachycardia; Analysis of 36 cases, Arch. Int. Med. 71:137-156 (Feb.) 1943.

TREATMENT OF ACUTE INFECTIOUS MONONUCLEOSIS

JAMES H. PARK, JR., M. D.
HOUSTON, TEXAS

The object of this paper is to direct attention to a disease entity which often is unrecognized, and to mention a form of treatment for the disease that has proved efficacious.

It is not a new disease. In 1885, Filatow[5] described an idiopathic lymphadenopathy occurring in children in Russia. In 1889, Pfeiffer[5] proved that it was a clinical entity and called it "glandular fever." His clinical description of the condition was comprehensive, but he did not describe any changes in the blood. The infectious nature of the disease was substantiated by subsequent observers and epidemics were reported.

In 1896, the first report of cases in America was made by West,[5] of Ohio. In 1908, Terflinger[5] reported 150 cases occurring in adults, showing that the disease, previously considered a disease of childhood, could affect all age groups.

Burns,[5] in 1909, was the first to note changes in the blood. He found that the small mononuclear elements were increased. Little was heard further about the disease until 1920, when Sprunt and Evans[5] revived interest by reporting their observations in several cases in adults. The patients presented symptoms of acute infection; an enlargement of the spleen and lymph nodes, chiefly in the cervical triangles; and a mononuclear leukocytosis. Sprunt and Evans supposed they were dealing with a new disease and called it "infectious mononucleosis." In 1921, Tidy and Morley[5] made careful blood studies during an epidemic and decided that infectious mononucleosis and glandular fever were the same.

The disease may occur in sporadic or epidemic form. Baldridge and others,[1] in 1926, asserted that sporadic cases are only the more marked cases of a small epidemic in which many cases escape detection because of their mild nature. In 1946, Wechsler, Rosenblum, and Siles[7] reported an epidemic, with exhaustive clinical and laboratory studies, occurring at the Army Station Hospital, Fort Bliss, Texas, and extending over

From the Department of Pediatrics, Baylor University College of Medicine.

Chairman's Address before the Section on Pediatrics, State Medical Association of Texas, Annual Session, Dallas, May 6, 1947.

a period of fifteen months. Observation was made of 556 affected patients, all adults; forty-nine of them were Negroes. Prior to this epidemic, only one instance of the disease occurring in Negroes had been reported. Despite their thorough investigation of the disease, the authors could add nothing to its etiology. Although the etiology is unknown, a virus is assumed by most investigators to be the cause.

The report of Paul and Bunnell,[6] in 1932, that they found a high titer of heterophil antibodies in the blood serum of patients who had the disease has been helpful in establishing a correct diagnosis. The test is not specific, however, for false positives can occur, especially in those persons who have previously received animal serum. The Davidsohn[3] absorption test is valuable in determining whether the reaction is true or false. A positive test, in some degree, may persist for two or more months.

The disease is more prevalent in children and young adults, particularly in males. There seems to be no special seasonal incidence. The incubation period is between seven and fourteen days.

The onset may be sudden or gradual. Usually there is a prodromal stage of three or more days, during which there is languor, headache, and anorexia. This is followed by fever, generalized adenopathy, and some degree of splenic enlargement. Coryza and sore throat with much swelling of the adenoids and tonsils and chilly sensations may lead the physician to believe that he is dealing only with an acute upper respiratory infection. A maculopapular rash may appear during the course of the disease and remain for a few days. The duration of the infection is from fourteen to thirty days.

Although the symptoms may vary, almost always the diagnosis can be established sooner or later by the typical blood picture. There is no appreciable reduction of the red cells and hemoglobin unless the infection is of long duration. The leukocyte count is neither typical nor constant; a leukopenia is common, especially in the early stages of the disease. At some time during the infection, however, leukocytosis occurs. The differential count provides the typical blood findings. The mononuclear elements are increased, chiefly the lymphocytes. The lymphocyte of infectious mononucleosis is an abnormal cell.

Kracke gives credit to Downey and McKinlay[4] (1923) for describing in detail the finer cytology of the abnormal lymphocyte. The cells are larger than normal lymphocytes; the nucleus is lobulated and has a cloudy appearance; the cytoplasm is basophilic and vacuolated. The finding of this characteristic atypical cell, together with a positive heterophil test in dilution of 1:64 or more, when correlated with the clinical evidence justifies a diagnosis of infectious mononucleosis. It is important to make a correct diagnosis as soon as possible, for a favorable prognosis can be given at once to the child's worried parents.

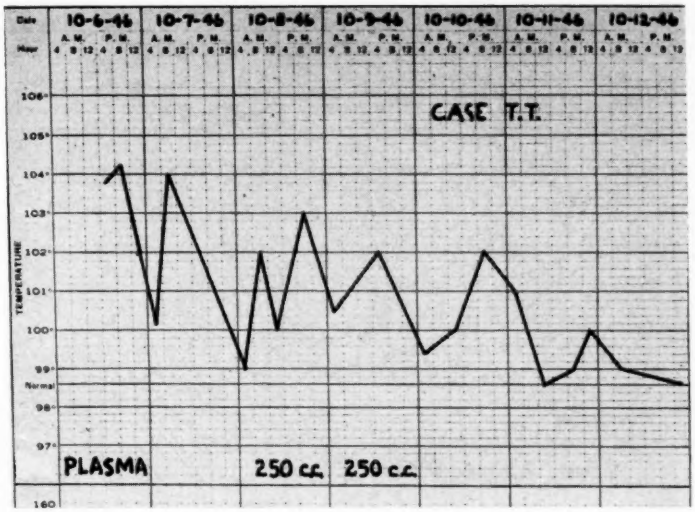


FIG. 1. Chart showing fall in temperature in case 1 following administration of blood plasma.

Heretofore, the treatment of the disease has been entirely symptomatic. In February, 1946, my colleague, Dr. David Greer, recalled the experience of H. K. Berkley,[2] who gave convalescent scarlet fever serum to 4 patients suffering from infectious mononucleosis, all of whom made complete clinical recoveries within forty-eight hours. Other measures proving unhelpful in the treatment of a 10 year old boy quite ill with acute infectious mononucleosis of fifteen days duration, Dr. Greer decided to give the patient pooled human blood plasma. Accordingly, 250 cc. of plasma were given to the patient intravenously on the fifteenth day of his illness. Soon thereafter, there was a fall in temperature, then a chill and an abrupt rise to 104 F., with lancinating

pain in the thighs. The plasma in like amount was repeated on each of three successive days with the same reaction until the fourth injection, when the temperature fell to normal and remained there until the boy's discharge from the hospital five days later. Within twenty-four hours after the first injection, the glands and spleen began to decrease in size. When he was dismissed from the hospital, the spleen could no longer be felt and the adenopathy had disappeared. His heterophil agglutination test was positive in the dilution of 1:512 at the height of the disease.

Since then we have employed commercial pooled human blood plasma intravenously in the treatment of 11 children acutely ill from infectious mononucleosis. The treatment has been uniformly gratifying in influencing the course of the disease.

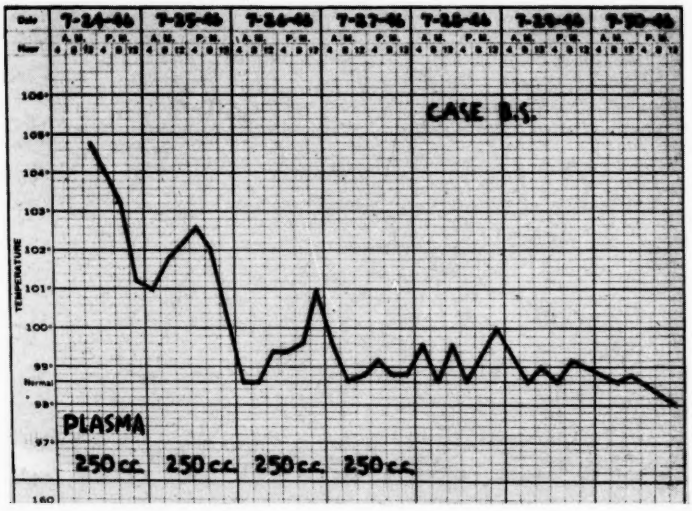


FIG. 2. Chart showing fall in temperature in case 2 following administration of blood plasma.

To aid in the recognition of the infection and to illustrate the effect of human blood plasma in its treatment, the following typical case reports are cited.

CASE REPORTS

CASE 1.—T. S. T., a boy 6 years of age, became ill the night of October 3, 1946, with fever, sore throat, nasal stuffiness, and chilly sensations. When he was seen by me on the fourth day of illness, he was acutely sick, with temperature 104.4 F. by rectum, and presented nasal blocking, marked whitish exudate on the pharynx and in the tonsillar fossae, unilateral catarrhal conjunctivitis, generalized adenopathy, especially in the anterior cervical region, and enlargement of the spleen (5 cm. below the costal margin). His red blood count was 4,000,000; hemoglobin, 75 per cent; white blood count, 6,400, including lymphocytes, 61 per cent of which 12 per cent were monocytes and 39 per cent neutrophils. Several typical cells of infectious mononucleosis were present. The heterophil test was positive in the dilution of 1:128.

On the sixth day of the disease, the patient was given 250 cc. of human blood plasma; at that time, his temperature was 102 F. by rectum. It fell to 100 F. and rose again during the day to 103 F. by rectum. The following day, 250 cc. of plasma were given again. The maximum temperature that day was 101.8 F. by rectum. It fell during the night and did not rise above normal thereafter. All of the objective symptoms had disappeared ten days after the onset.

CASE 2.—B. S., a 4-year-old boy of Italian-American parentage, was admitted to St. Joseph's Infirmary on July 24, 1946. He had become ill twelve days before with fever, nasal stuffiness, chilliness, and sore throat. The mother assumed that he had influenza and treated him with the usual home remedies, including a sulfa prescription loaned by a neighbor, and penicillin lozenges. He had vomited several times. His temperature had been high for two or three days, but had not been taken. On admission to the hospital, his temperature was 104.6 F. by rectum, pulse 144, respirations 28. He appeared to be seriously ill, and was clearly in a state of acidosis. There was much swelling of the adenoids and tonsils. A thin, grayish-white exudate was seen on the pharynx and tonsils. There was marked generalized adenopathy, especially in the cervical areas and both axillae. The glands were tender but firm. The spleen was palpable 4 cm. below the costal margin.

The day of his admission to the hospital the red blood count was 4,500,000; hemoglobin, 72 per cent; white blood count, 42,500; small lymphocytes, 21 per cent; monocytes 53 per cent; neutrophils, 26 per cent. There were numerous basophilic, vacuolated cells seen. The heterophil test was positive in the dilution of 1:456.

He was at once given glucose by the vein and an abundance of fluids by mouth. Two hundred fifty cc. of blood plasma were given intravenously each day for four days. Rapid improvement was noted within twenty-four hours after plasma therapy was started. Whereas before he had been extremely irritable and fractious, he now appeared to be comfortable and was playful. July 27, his red blood count was 4,100,000; hemoglobin, 70 per cent; white blood count, 12,600; small lymphocytes, 40 per cent; large lymphocytes, 4 per cent; monocytes, 20 per cent; neutrophils, 36 per cent

On July 29, the patient entered the third day of normal temperature. The glands had entirely subsided and the spleen could no longer be felt. The throat was free of exudate and the tonsils and adenoids had returned to normal size. His red blood count was 4,000,000; hemoglobin, 65 per cent; white blood count, 11,000; small lymphocytes, 35 per cent; large lymphocytes, 1 per cent; monocytes, 9 per cent; eosinophils, 3 per cent; neutrophils, 32 per cent. A few vacuolated cells were noted. He was begging for more food. It was difficult to keep him in bed. He was discharged from the hospital July 31, apparently well. That day his red blood count was 4,000,000; hemoglobin, 68 per cent; white blood count, 8,000; small lymphocytes, 34 per cent; large lymphocytes, 2 per cent; monocytes, 4 per cent; eosinophils, 6 per cent; neutrophils, 54 per

cent. None of the typical cells of infectious mononucleosis was seen. The heterophil test was positive in the dilution of 1:16.

SUMMARY AND CONCLUSIONS

1. Attention is directed to a disease entity which often is not recognized.
2. Diagnostic criteria are set forth.
3. The use of pooled human blood plasma has seemed to be helpful in influencing the course of the disease.

REFERENCES

1. Baldridge, C. W.; Rohner, F. J.; and Hansmann, G. H.: Glandular Fever (Infectious Mononucleosis), Arch. Int. Med. 38:413-448 (Oct.) 1926.
2. Berkley, H. K.: Infectious Mononucleosis; Its Treatment with Scarlet Fever Convalescent Serum, J. Pediat. 20:26-31 (Jan.) 1942.
3. Davidsohn, I.: Test for Infectious Mononucleosis, Am. J. Clin. Path., Tech. Sup. 2:56-60 (March) 1938.
4. Downey, H., and McKinlay, C. A.: Acute Lymphadenosis Compared with Acute Lymphatic Leukemia, Arch. Int. Med. 32:82-112 (July) 1923.
5. Kracke, R. R.: Diseases of Blood, ed. 2, Philadelphia, J. B. Lippincott Co., 1941, p. 473.
6. Paul, J. R., and Bunnell, W. W.: Presence of Heterophile Antibodies in Infectious Mononucleosis, Am. J. M. Sc. 183:90-104 (Jan.) 1932.
7. Wechsler, H. F.; Rosenblum, A. H.; and Siles, C. T.: Infectious Mononucleosis; Report of Epidemic in Army Post, Ann. Int. Med. 25:113-133 (July); 236-265 (Aug.) 1946.

ATYPICAL MONONUCLEOSIS SIMULATING ACUTE APPENDICITIS

OCTAVIO GARCIA, B. S., M. D.
McALLEN, TEXAS

Infectious mononucleosis (glandular fever) is an acute infectious disease characterized by enlargement of cervical and other lymph glands, accompanied at times by enlargement of the liver and spleen; leukocytosis, showing mononuclear increase, and mild febrile reaction. It is a disease of children and young adults found in sporadic cases and at times in mild epidemic form.

Infectious mononucleosis was first described by Pfeiffer in 1889, but it was Turk in 1907 who first called attention to the changes in the blood, particularly to the marked increase in the mononuclear cells. Subsequently Cabot, Sprunt, and Evans verified Turk's work demonstrating that infectious mononucleosis is a distinct clinical entity.

The cause of infectious mononucleosis is not known, although repeated efforts have been made to find the etiologic factor. From serologic studies, as suggested by Davidsohn, the virus that is responsible for this disease must contain heterophilic antigen.

While most cases of infectious mononucleosis present typical clinical features and a decided blood picture, there are atypical cases which simulate conditions such as acute lymphatic leukemia, influenza, Hodgkin's disease, dengue, agranulocytic angina, and acute appendicitis. Fortunately, in 1932 Paul and Bunnell devised a test, based on the presence of heterophil agglutinations for sheep cells in the serum of patients having infectious mononucleosis, that is specific for this disease. In 1935, Davidsohn modified the technique to offer an agglutination test of increased sensitivity and rapidity, allowing results to be read within two hours.

Read before the Section on Surgery, State Medical Association of Texas, Annual Session, Dallas, May 6, 1947.

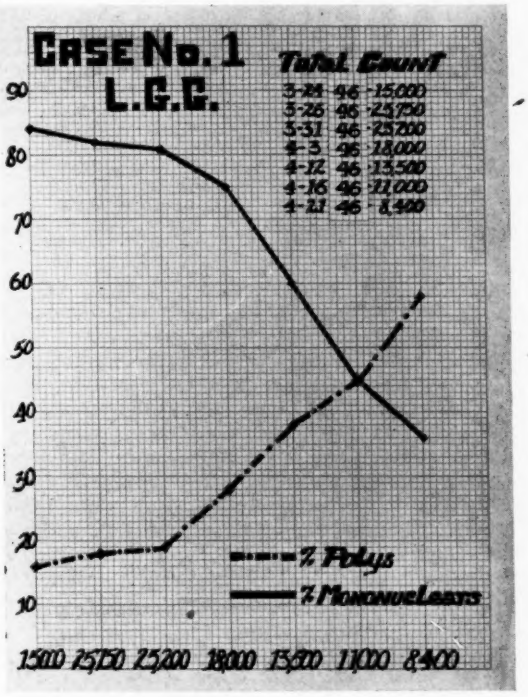


FIG. 1. Chart for case 1 showing the total leukocyte count at various times during the course of atypical mononucleosis and portraying graphically the percentage of polymorphonuclears and mononuclears observed at each count.

CASE REPORTS

CASE 1.—L. G. G., an 8-year-old white child, was seen at home with a complaint of acute pain in the lower abdomen, particularly the right lower quadrant, and about the umbilicus, and with nausea and vomiting, and a temperature of 101 F. This was preceded by a few days of general malaise and loss of appetite. The family history was unimportant. The child had had measles, mumps, and chicken pox. The tonsils and adenoids were removed two years previously.

Physical examination revealed a well developed and fairly well nourished child. The skin showed no petechia. The lymph glands of the neck and groin were enlarged but were discreet and not tender. The heart and lungs were normal. There was distinct tenderness over the lower abdomen, particularly over the right lower quadrant, and about the umbilicus. The liver and spleen were not palpable. The urine was negative. The leukocyte count was 15,000 per cubic millimeter, the differential showing an increased mononuclear count.

On the strength of the blood picture, operation was postponed and the child placed under observation. The temperature was normal in the morning, slowly rising in the afternoon to 100 or 101 F.

The next day the leukocyte count increased to 25,750 but the patient felt better and the nausea ceased.

The condition of the patient remained about the same, and three days later the leukocyte count dropped to 25,200 and the afternoon rise in temperature was less. Three days later the count dropped

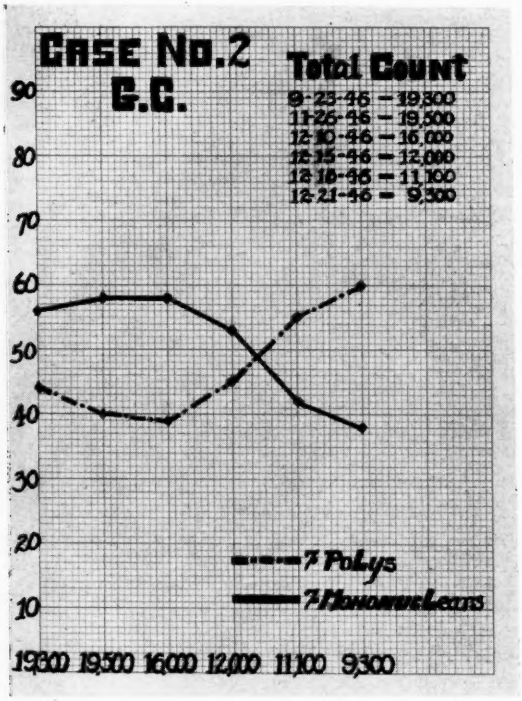


FIG. 2. Chart for case 2 showing the total leukocyte count at various times during the course of atypical mononucleosis and portraying graphically the percentage of polymorphonuclears and mononuclears observed at each count.

to 18,200 and the patient felt quite well, the enlargement of lymph glands decreasing.

Eighteen days after onset the leukocyte count dropped to 13,500, the child was allowed to return to school, all subjective symptoms had disappeared, and the lymph glands were barely palpable. The last count taken was 8,400; the child was in apparent good health.

Figure 1 summarizes the changing blood count during the course of the disease.

The differential count was very interesting. The atypical lymphocytes predominated in the blood picture, reaching as high as 84 per cent of the total of white cells. These atypical lymphocytes were larger than the small lymphocyte and contained a deeply stained kidney shaped nucleus or a slightly indented nucleus eccentrically located in the cell. The basophilic protoplasm varied in amount and was not granular but often vacuolated.

CASE 2.—G. L. C., a boy, 7 years of age, was brought to my office complaining of acute abdominal pain, nausea, and vomiting. Examination revealed generalized tenderness, no rigidity. The blood count September 23, 1946, showed 19,300 white cells, 44 per cent polymorphonuclears, and 56 per cent lymphocytes.

A diagnosis was made of atypical mononucleosis with adenopathy. The child was placed under observation. From time to time the abdominal pains repeated themselves. The total blood count was generally high. The differential count, however, showed a predominance of lymphocytic cells.

During my vacation the patient was again seized with abdominal pain and was seen by another surgeon, who removed the appendix. Gross and pathologic examinations of the appendix did not show acute inflammation. Upon my return from vacation the child was brought to the office with the same complaint. Cytologic study at that time and on several successive days when I saw the child resulted in the figures listed in figure 2.

CASE 3.—S. H., a girl 7 years old was seized with generalized abdominal pain and tenderness. A blood count showed an increase in the total number of

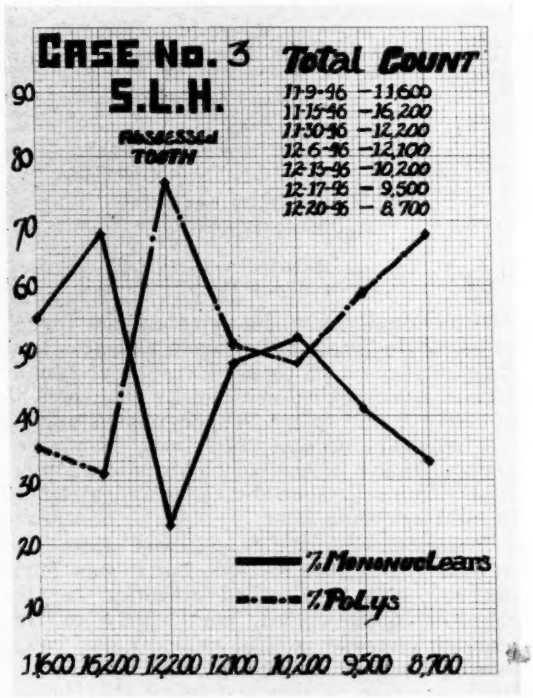


FIG. 3. Chart for case 3 showing the total leukocyte count at various times during the course of atypical mononucleosis, complicated at one period by an abscessed tooth, and portraying graphically the percentage of polymorphonuclears and mononuclears observed at each count.

white cells with a definite mononuclear increase. The patient was placed under observation, and the attack subsided rapidly. Subsequently the patient had two other attacks with similar blood pictures. A diagnosis of atypical mononucleosis was made and operation was deferred. It is interesting to note that during her illness the child came in one day complaining of pain and fever of 102 F. Examination revealed an abscessed molar tooth. The blood picture at that time showed a shift to the polymorphonuclear series (fig. 3).

In case 1 it was first thought that the condition was an acute lymphatic leukemia,

but the absence of anemia, hemorrhage, or petechia led to a consideration of other possibilities. At the time there was in the community a mild epidemic of influenza, but the high leukocyte count in the absence of acute respiratory symptoms made this diagnosis unlikely. The general improvement of the patient pointed with more certainty to a diagnosis of infectious mononucleosis.

In case 2 appendectomy clearly did not improve the symptoms. The gross appearance of the appendix and sections showed no inflammation.

In case 3 careful cytologic study and observation have confirmed the diagnosis, and operation was not necessary.

COMMENT

Three cases of atypical infectious mononucleosis are presented in which the clinical features so closely resembled acute appendicitis that only close attention to the blood picture brought about the correct diagnosis. It is well to quote Davidsohn, who stated, "There are cases of infectious mononucleosis with abdominal symptoms which resemble closely an attack of acute appendicitis. Any experienced surgeon will recall cases with acute abdominal symptoms in which an operation revealed an appendix without gross or histological evidences of inflammatory changes but with lymphatic hyperplasia and presence of markedly swollen mesenteric lymph nodes. There is no way of knowing how many of those cases have been instances of infectious mononucleosis with abdominal symptoms."

From the experience here reported it seems that a more careful physical examination, including cytologic study, would prevent unnecessary operations, particularly in children suffering with acute abdominal pain.

REFERENCES

1. Contratto, A. W.: Infectious Mononucleosis; Study of 196 Cases, Arch. Int. Med. 73:449-459 (June) 1944.
2. Davidsohn, I.: Serologic Diagnosis of Infectious Mononucleosis, J.A.M.A. 108:289-295 (Jan. 23) 1937.
3. Janeway, C. A., and Dammin, G. J.: Studies on Infectious Mononucleosis, J. Clin. Investigation 20:233-239 (March) 1941.
4. Julianelle, L. A.; Bierbaum, O. S.; and Moore, C. V.: Studies on Infectious Mononucleosis, Ann. Int. Med. 20:281-292 (Feb.) 1944.
5. Mitchell, R. H., and Zetzel, L.: Infectious Mononucleosis in Army, War Med. 5:356-360 (June) 1944.
6. Reyersbach, G., and Lenert, T. F.: Infectious Mononucleosis without Clinical Signs or Symptoms, Am. J. Dis. Child. 61:237-244 (Feb.) 1941.
7. Seeds, A.: Acute Cervical Adenitis in Children, Texas State J. Med. 37:593-597 (Jan.) 1942.
8. Ziegler, E. E.: Infectious Mononucleosis, Arch. Path. 37:196-201 (March) 1944.

720 South Main Street.

ABSTRACT OF DISCUSSION

Dr. W. E. Whigham, McAllen: I have been particularly interested in the observations of Dr. Garcia. While, as he stated, the cause of infectious mononucleosis either in its typical or atypical form is not known, the disease behaves a great deal after the pattern of a virus infection of the filtrable type. It is interesting to note in case 3 that when the patient developed a pyogenic infection, namely, an abscessed tooth, the blood picture changed to what would be expected in an infection of that type, that is, to a polymorphonuclear increase. A mononuclear increase is expected in infections of the filtrable type.

All who have done extensive surgery in general practice have encountered cases from time to time in which the abdominal findings do not correlate with the expectations from the total leukocyte count. The appendix is removed and there is no particular interest in going back and studying the blood changes. At times there is found during the operation a certain amount of adenitis that is certainly not tuberculous and that cannot be explained. I feel sure that some of these cases fall in the same category as those observed by Dr. Garcia.

CONTROL MEASURES IN ACUTE RESPIRATORY INFECTIONS

W. G. SMILLIE, M. D.
NEW YORK, NEW YORK

The control of any infectious disease depends in great part on the epidemiology of that disease. Even if the etiologic agent is not known or well understood, control measures are often satisfactory if certain other basic epidemiologic data are available. On the other hand, the etiology of a disease may be well known, yet control measures be quite unsatisfactory because other important epidemiologic data are missing. Thus in a discussion of the control of any disease, an abstract of the available knowledge concerning its epidemiology should first be presented.

The acute respiratory infections include a large group of conditions: some of them are clear-cut entities; others are ill-defined. I shall limit the discussion to the following respiratory infections: (1) influenza, (2) lobar pneumonia, (3) bronchopneumonia, (4) primary atypical pneumonia, and (5) the common cold and related conditions.

INFLUENZA

The epidemiology of true influenza is now well understood. The disease is due to a filtrable virus. Two types of virus have been carefully studied, and named types A and B. These organisms differ somewhat in their effect upon man but are similar in their general epidemiologic characteristics.

The period of incubation of the disease is short, from twenty-four to forty-eight hours. The disease is transmitted by contact with an acute case of illness. The danger of transmission is a spatial phenomenon, in inverse ratio to the square of the distance from the source. In other words, very close contact of a case of influenza with a susceptible person almost always results in transmission.

From the Department of Public Health and Preventive Medicine, Cornell University Medical College.
Read before the Section on Public Health, State Medical Association of Texas, Annual Session, Dallas, May 6, 1947.

The greater the distance, the less the danger. But the virus may be transmitted for a considerable distance through the air of a hospital ward, a classroom, or even through a large building. The virus may remain suspended in the air for some hours.

The period of infectiousness of a patient is short: from three to four days after acute symptoms begin. As in many virus diseases, symptoms of influenza continue after infectiousness is lost. An attack of the disease produces a high degree of temporary immunity against the specific infection. This immunity is lost gradually, though in many persons some degree of immunity against the homologous strain will persist for several years. Carriers of the infection are not common, but they do occur and are the probable explanation of continuance of the infection.

Influenza occurs in epidemic waves, invading most communities of the United States every few years. In large communities it returns almost every year. There is some evidence that type A of the disease has a periodicity of from two to three years, and type B from four to five years. In interepidemic years, there is good evidence that sporadic cases, and also small family or community epidemics, occur, due either to virus A or B, or perhaps to some related strain. There is strong evidence that there are various other strains of influenza virus which are closely related to virus A and virus B.

The virus invades the upper respiratory tract and produces both local and generalized symptoms. Of the latter, headache, prostration, flushing of the face, fever, deep muscle pain, and marked weakness are the most striking. Onset is invariably abrupt, and the duration of acute symptoms is about five days. The organism is highly injurious to the ciliated epithelium of the trachea and bronchi and paves the way for secondary invasion of pyogenic organisms that may be present in the nasopharynx—particularly the pneumococcus. Epidemics of influenza are invariably followed by an increase in the prevalence of and the death rate from pneumococcus pneumonia. Other symbiotic organisms are hemolytic streptococcus, staphylococcus aureus hemolyticus, and the Pfeiffer bacillus.

General control measures have thus far been highly ineffective. There is now evidence[3] that specific control procedures may be feasible. Influenza vaccine is of real value in prevention of infection. It is prepared from killed cultures of virus A and B that have been grown in chick embryo. The vaccine will produce an effective immunity against infection if given in a single dose subcutaneously. Little reaction is experienced from this single injection, and immunity is secured in about seven days. The single dose of vaccine is in reality a "booster" injection, since most persons have some degree of immunity to influenza from previous exposure. The immunity secured by the vaccine is of relatively short duration. If a whole community is vaccinated in the fall, the community immunity will be maintained throughout the winter months, though some persons will lose their immunity in a shorter period.

All the antibiotics that have been tried have thus far proved ineffective in the treatment of influenza. All other methods of control that have been tried have been of little or no avail.

LOBAR PNEUMONIA

This disease should perhaps be termed "pneumococcus pneumonia," since 95 per cent of the cases are due to some type of pneumococcus. More than seventy serologic types of pneumococci have been described. The body or central core of the organism is the same in all types. Variations are due to the peculiar carbohydrate structure of the capsule of each type. Types 1 and 2 are the most important, although other types such as 5, 7, 8, and 9 may appear in true epidemic proportions. Type 14, for some unknown reason, is particularly virulent for small children. Type 3 is a very dangerous invader in persons past 45 years of age, but is of lesser importance in young adults. The higher and less virulent types occur frequently in the normal nasopharynx. In the wintertime, at least 60 per cent of the population carry one or more of these types in the throat, with no ill effect.

Pneumococcus types 1 and 2 are seldom found in the throats of a normal population, but carriers of these strains do occur. If an epidemic of upper respiratory virus infection invades a family, and if a virulent strain of pneumococcus happens to be present in one member of the family, this organism will invade the family and sometimes the whole community. Some infected persons will develop a simple bronchitis or a sinusitis; babies may have otitis media; while a small number of persons will develop typical lobar pneumonia. Cultures of the throat taken from family contacts of a case of pneumonia will reveal, in most instances, a high prevalence of the homologous strain in the family. But the pneumonia patient has not infected his contacts; rather, the patient is the casualty of a previous family pneumococcus invasion.

Some authorities believe that any one of the virus infections of the respiratory tract,

for example, colds, atypical pneumonia, or influenza, will pave the way for pneumococcus invasion; others believe that in practically every instance the influenza virus is the important precursor. It has even been suggested that the pneumococcus, however virulent, has little invasive power unless preceded by a virus infection or some other injurious factor which has prepared the way for its invasion of the lungs. If this is a fact, the pneumococcus is always a true secondary invader.

The patient with pneumonia seldom transmits his infection to his contacts.[8] (This is true, of course, of meningococcus infection also.) Transmission of the pneumococcus is from the carrier, rather than from the patient suffering from the disease.

Lobar pneumonia probably has not declined in prevalence during the years, although there are no accurate data on this point. The death rate began to fall steadily from the year 1900, long before serum therapy was introduced, Antibiotics have precipitated this trend line to such a degree that at the present time an attack of typical pneumococcus pneumonia in a young adult, if quickly recognized and adequately treated, has become a disease with an almost negligible fatality rate. There is some evidence also that the carrier of virulent pneumococci may be cleared up by small doses of sulfonamide.

A vaccine has been prepared which contains the soluble specific substance of types 1 and 2. In the war experience of the Army camps in the Dakotas, McLeod and his associates[4] encountered a high prevalence of types 1, 2, and 9 in the soldiers. They added the capsular material from type 9 to types 1 and 2 in their vaccine, with good results. There is ample evidence that a single injection of soluble specific substance, if given subcutaneously, will increase a person's resistance against the homologous pneumococcus types. Satisfactory immunity is secured in about eight days and lasts for at least several months.

This method of protection against pneumococcus pneumonia is of theoretical value under situations where the risk of lobar pneumonia is great. It is not practicable on a large scale since it is necessary to vaccinate such a large number of persons in order to prevent a small number of cases of the disease. In other words, the risk of infection for any given person in the community during any single winter season is small, and thus the risk is not commensurate with the effort required for mass immunization.[2]

BRONCHOPNEUMONIA

This disease has a striking epidemiology. It occurs almost invariably in a debilitated person: infants, invalids, the aged, or persons suffering from some primary disease. Bronchopneumonia is encountered in terminal illness. It was the actual final cause of death in over one-half the autopsies that we have studied routinely in the New York Hospital.[7]

The etiologic factors, in order of prevalence, are: (1) pneumococcus, almost always one of the higher or avirulent types; (2) Pfeiffer bacillus, alone or in combination with the pneumococcus or staphylococcus; (3) beta hemolytic streptococcus, usually type A, and (4) staphylococcus aureus hemolyticus.

These are the potential pathogens that are most frequently encountered in the normal nasopharynx. Furthermore, our studies have shown that when bronchopneumonia follows an operation, in almost every instance the organism that caused the pneumonia had been present in the nasopharynx before the operation was performed.

These observations indicate that bronchopneumonia is an autogenous infection, not acquired from without, a self infection due to an organism normally present in the nasopharynx, which may, under special conditions, find an opportunity to invade the lungs. In many instances, this is a fortunate provision of nature for the person who is suffering from a primary incurable chronic disease and who greatly desires relief from intolerable suffering. In other instances, recovery from the debilitating primary condition may be quite possible if bronchopneumonia does not intervene. A skillful use of antibiotics as a preventive measure may save the life of such a patient. This is one of the instances when antibiotics may be effective as a prophylactic measure.

PRIMARY ATYPICAL PNEUMONIA

This disease has been removed from the large group of unidentified respiratory infections and may now be placed in a special category. The disease is due to a specific virus,[1] which has been transmitted to human volunteers. It has been observed most frequently as small epidemics in families or in communities. Health services of universities, through a system of routine roentgenograms of the chest of all cases of severe respiratory disease, have uncovered many outbreaks.

Reimann[5] expressed the belief that widespread epidemics of "viroid" (as he has called the disease) occur, in which most of the infected persons are ambulatory, with less

than 10 per cent of those infected developing true pneumonia.

Virus pneumonia itself is readily diagnosed by roentgen examination of the chest. The presence of cold agglutinins in the blood of persons who are victims of an epidemic of an acute respiratory disease is a good index of the prevalence of an outbreak of virus pneumonia.[9]

The epidemiology of virus pneumonia is not well understood. Presumably it is transmitted from person to person by fairly direct contact. The incubation period is much longer than in influenza, from seven to twelve days. The onset is not as abrupt as in lobar pneumonia. The disease has been most commonly diagnosed in young adults, but its real prevalence is not known. It is mild, with a very low fatality rate and few sequelae. Apparently this virus does not pave the way for secondary infection, for pneumococcus pneumonia, sinusitis, or otitis media are not common concomitants of the disease.

The various antibiotics that have been tried in therapy have been of no avail in this disease, and no satisfactory method of prevention is known.

THE COMMON COLD

This category includes a variety of mild acute respiratory infections which are extremely prevalent, and about which a great deal has been written. It seems probable that many of these illnesses are in reality mild attacks of a true influenza virus, or in many instances are due to the virus which may produce primary atypical pneumonia. In some instances, environmental factors may so affect the normal physiology of the nasopharynx as to permit a breakdown of protective barriers, with subsequent invasion by the potential pathogens that are nearly always present in the nasopharynx.

There is good evidence, however, that a true entity occurs—a specific virus of low virulence and very high prevalence, which produces the typical epidemic of "colds" in the fall. This epidemic produces a temporary community immunity, only to be followed by a second and more extensive epidemic during the spring months. No experimental animal except the chimpanzee has been found to be susceptible to this virus. Experiments with specific vaccination have thus far been unsuccessful. The symptoms produced by the vaccine have been as severe as the disease. Prevention of the acute "common cold" is thus one of the great unsolved problems of public health.

AIR STERILIZATION

Robertson and his associates[6] have shown that triethylene glycol, if distributed in the air in a very fine mist in proportions of 1:400,000,000, will destroy all the common agents of respiratory disease in a very short period of time. The drug is not injurious, even in much higher concentrations. The Commission on Air-Borne Infections of the Surgeon General's Office carried out extensive tests with triethylene glycol in Army barracks during the war years, and developed satisfactory procedures for vaporizing the glycol. They also constructed a glycostat, which will control automatically the concentration of the glycol in the air.

Experiments are now being conducted to determine the effectiveness of triethylene glycol in the control of acute respiratory infections, including the contagious diseases of childhood. It is hoped that equipment can be devised which will make it possible to sterilize the air of large buildings continuously and automatically by introduction of the vapor into the air-conditioning system of the building. It may also be possible to sterilize the air of isolated country schoolrooms, day nurseries, public clinics, and even private homes by an introduction of triethylene glycol into the air of a room where a person with a contagious disease has entered, and from which a source of infection has been recently removed.

CONCLUSION

I have attempted to present a brief resume of recent developments in the knowledge of the epidemiology of the acute respiratory diseases, and to indicate the control measures that are developing as a result of this newer information. It is an interesting and important field, which is expanding rapidly.

REFERENCES

1. Eaton, M. D.; Meiklejohn, G.; van Herick, W.; and Corey, M.: Studies on Etiology of Primary Atypical Pneumonia, J. Exper. Med. 82:317-328 (Nov.) 1945.

2. Finland, M.: Recent Advances in Epidemiology of Pneumococcal Infections, Medicine 21:307-344 (Sept.) 1942.

3. Francis, T., Jr.: Consideration of Vaccination against Influenza, New York, Milbank Memorial Fund Quarterly, vol. 25, no. 1 (Jan.) 1947.

4. MacLeod, C. M.; Hodges, R. G.; Heidelberger, M.; and Bernhard, W. G.: Prevention of Pneumococcal Pneumonia by Immunization with Specific Capsular Polysaccharides, J. Exper. Med. 82:445-465 (Dec.) 1945.

5. Reimann, H. A.: Viral Infections of Respiratory Tract, J.A.M.A. 132:487-493 (Nov. 2) 1946.

6. Robertson, O. H.; Puck, T. T.; Lemon, H. M.; and Loosli, C. G.: Lethal Effect of Triethylene Glycol Vapor on Air-Borne Bacteria and Influenza Virus, Science 97:142-144 (Feb. 5) 1943.

7. Smillie, W. G., and Duerschner, D. R.: Epidemiology of Terminal Bronchopneumonia. I. Significance of Postmortem Cultures in Determination of Etiology of Terminal Pneumonia, Am. J. Hyg. 45:1 (Jan.) 1947.

8. Smillie, W. G., and Jewett, O. F.: Relationship of Immediate Family Contact to Transmission of Type-Specific Pneumococci, Am. J. Hyg. 32:79-88 (Nov.) 1940.

9. Turner, J. C.; Nisnewitz, S.; Jackson, E. B.; and Berney, R.: Relation of Cold Agglutinins to Atypical Pneumonia, Lancet 1:765-769 (June 19) 1943.

The Council on Medical Service of the American Medical Association reports that 5,000,000 persons are covered by medical society approved prepayment medical care plans.

A DECADE OF PUBLIC HEALTH PROGRESS IN TEXAS

GEORGE W. COX, M. D.
State Health Officer
AUSTIN, TEXAS

After observing the development and progress of public health during the past ten years, I am impressed at this time with the wide public interest in the affairs of health, which is reflected through an expression of the individual, the local community, the state, the nation, and the nations of the earth. It is quite significant to observe the international interest and to note the steps that have been taken to develop a worldwide organization to improve and protect the health of all people.

On February 15, 1946, an International Health Conference was convened by the Economic and Social Council of the United Nations. This action was to establish a single international health organization which would include all the nations in the world. A constitution was written and the name "World Health Organization" was adopted July 22, 1946. This document was signed by sixty-one participating nations. The name was adopted because it clearly reflects the fact that disease recognizes no national boundary and it carries the positive implication that health is the rightful heritage of all men.

In the preamble of the constitution the following principles were declared to be basic to the happiness, harmonious relations, and security of all people:

1. Health is a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity.
2. The enjoyment of the highest attainable standard of health is one of the fundamental rights of every human being.
3. The health of all the people is fundamental to the attainment of peace and security and is dependent upon the full cooperation of individuals and states.
4. The achievement of any state in the promotion and protection of health is of value to all.
5. Unequal development in different countries in the promotion of health and control of communicable disease is a common danger.
6. Health development of the child is of basic importance.
7. Informed opinion and active cooperation on the part of the public are of utmost importance.
8. Governments have a responsibility for the health of their people.
9. The promotion and conduct of research in the field of health is an urgent need.

It was my honor and privilege on March 22, 1943, some three years previous to the aforementioned International Health Conference, to present a paper at a meeting of the State and Territorial Health Officers in Washington, D. C. An effort was made at that time to present some of the progressive thinking that was being done in Texas and which today is in line with the program endorsed by the World Health Organization. At this time, I would like to repeat a portion of my statement made at the State and Territorial Health Officers meeting in 1943:

"The worldwide movement of people, both soldiers and civilians, the concentration of people in war industrial centers, the construction of the Alaskian and Pan-American Highways linking Canada and the United States with the tropical countries to the south have intensified the urgent need for strict environmental codes, especially those that are concerned with food and water supplies, sewage and garbage disposal, habitable buildings, including work shops, hotels, tourist camps, eating and drinking places, and rail and motor bus transportation.

"A need for a worldwide public health program will follow the war. European nations will be undernourished; people will be living in crowded and inadequate quarters; drugs and disinfectants will be difficult to obtain; and personal and community sanitation programs will be upset. These conditions will be ideal for the spread of contagious and nutritional diseases. North American troops in the war theaters are being infested by and may return home contaminated with various tropical and other parasites and disease producing organisms which are at present not found in certain sections of North America. Tropical countries will be opened to occupation after the war by northern people who are not immune to endemic diseases. This immense public health program will naturally fall upon us, for we alone will have the equipment, personnel, and humanitarian responsibility to conduct this work.

"Therefore, an environmental sanitation program should be most seriously considered in the light of the worldwide problem ahead. Hospitals and laboratories should be planned, corps of trained physicians, research scientists, sanitary engineers, and laboratory technicians should be at hand to undertake the problem at home and to move into the allied countries and into the various countries which are now occupied by the axis powers where environmental sanitation will be most urgently needed, as soon as peace is declared.

"We will not only need to protect the people of the world from postwar epidemics, but will by this humane act lay the basic foundation for a worldwide democracy."

Prior to the beginning of World War II, the Texas State Department of Health had formulated a long-range plan and the Texas plan was recommended to the State and Territorial Officers of the United States, at the 1943 meeting. The following eighteen fundamental points of procedure were outlined to show the long-range program that was being attempted in Texas:

1. The establishment of local health centers with laboratory and equipment to house local health personnel.
2. The construction of general hospitals, venereal disease detention hospitals, and preventoriums.
3. Plans for water supplies and treatment where needed.
4. Sewerage system and treatment works where needed.
5. Municipal or cooperative abattoirs.

Read before the Section on Public Health State Medical Association of Texas, Annual Session, Dallas, May 6, 1947.

6. Municipal or cooperative oyster shucking and shellfish packing establishments.
7. Municipal or cooperative canning or food processing plants.
8. The construction of several institutions for the training of health workers.
9. The planning of drainage systems where such drainage will minimize the malaria problem.
10. The planning of a mutual aid plan in rodent control in rat-proofing of buildings.
11. The planning of a cooperative program of garbage disposal.
12. The planning for the elimination of slum areas and making available adequate housing for the population.
13. Planning of additional recreational areas.
14. Planning of a program for the training of men to carry forward a health program in South America or the occupied countries.
15. The planning of a program which will provide adequate lighting, heating, and ventilation facilities in public buildings, especially in the schools.
16. An advisory program that would be helpful to industries in the elimination of industrial hazards.
17. Plans which will insure the farm population of safe living conditions, by providing for aid in the correction of farm water supplies, waste disposal systems, screening, and the like.
18. Setting up short training schools for food handlers, water and sewage plant operators, swimming pool operators, operators of food processing plants such as pasteurization plants, and hygienists for industrial plants.

Although we have not been able to obtain all of each objective, definite progress has been obtained on each of the points outlined.

It is significant that under the sponsorship and promotion of the Texas State Department of Health, twenty local health center buildings have been constructed to house health unit personnel and to carry out in a most acceptable manner the specific functions of a full-time health unit program. In addition to these buildings, the State Health Department has assisted in securing the purchase of four additional existing buildings, which were remodeled to house local health unit facilities. These buildings were constructed and equipped at a total cost of $759,-553.18. They are now being purchased by the local communities at a greatly reduced price, and it is hoped they will be used for the purpose for which they were built.

Ten years ago, the Texas State Department of Health, was housed on a portion of one floor in one of the older state office buildings in Austin. Today at no cost to the government of Texas—other than provision of the building site—the department is housed in a modern, four-story, fireproof building, which is one of the most complete in the United States.

At the beginning of the fiscal year 1936-1937, there were seven full-time county health units serving eight counties in Texas. Comparatively speaking, the fiscal year 1946-1947 reveals that there are now forty-seven full-time state participating health units serving fifty-five counties. In the year 1936-1937, only 500,515 citizens or approximately 10 per cent of the citizens of Texas were being served by a local full-time health protection program, whereas today 3,686,034 or approximately 57 per cent of our total population are receiving the benefits of local full-time health protection. The steady progress in the development of full-time health units may be shown by the following figures: 1936, 7 units; 1938, 15 units; 1940, 27 units; 1942, 42 units; 1944, 49 units; and 1946, 47 units.

One of the most difficult tasks confronting the State Health Department ten years ago was to convince counties and cities that a full-time health unit was worth supporting. Today the situation is reversed. We have in our files, a list of seventy additional counties seeking state financial assistance to organize a full-time health unit.

The state appropriation to support the Department has shown a slow but steady increase for the past decade. The regular appropriation for the fiscal year 1936-1937 was $206,672.50, whereas the regular appropriation for the fiscal year 1946-1947, including state appropriated crippled children funds, totaled $808,572. This represents an increase of state funds for health protection of approximately 400 per cent. The steady increase of state funds over the past decade is most encouraging although there is great need for the state of Texas to assume more of the financial responsibility for a completely adequate public health program.

There still exists in Texas an acute shortage of general hospital beds, and the State Department of Health is vitally concerned in the expansion and completion of an adequate hospital construction program in the state. There is now pending in the Texas Legislature, specific legislation which, if enacted, will enable the State Health Department to render an invaluable service to the cities and counties of this state in attaining this objective. During the past ten years the Department has also encouraged the State Legislature to provide more adequate hospital facilities for the treatment and care of tuberculosis. Indications at the moment are favorable that steps will be taken by the Fiftieth Legislature to expand tuberculosis hospital facilities so as more adequately to meet present needs.

Prior to World War II, the State Health Department and participating health units organized a concentrated statewide drive for the construction of municipal abbatoirs and frozen food locker plants. Although this

program is far from successful completion, millions of dollars have been invested in the construction of abbatoirs and locker plants, which has resulted directly in making available a safer food supply for the citizenship.

The State Department of Health has been instrumental in assisting municipalities of Texas in formulating plans and securing grants-in-aid for the construction of more than $200,000,000 worth of water and sewerage improvements during the past ten years. As a result there are rarely epidemics of water-borne diseases.

Through the efforts of the malaria control program the death rate from malaria has been reduced to the lowest figure in the history of Texas.

The same results are being accomplished in the battle against typhus fever. Ratproofing has been accomplished in the business areas of twenty-five major cities, and a research program conducted in Lavaca County on the control of the disease has attracted international consideration. Six mobile typhus control units are now covering fifty counties, and cooperation is being given industrial plants in fifty-eight counties on a far-reaching poisoning program. This unified program is already securing spectacular results and its continuation may completely control typhus fever in Texas.

An important function of the State Department of Health is the education of individuals and groups to help themselves in matters concerning public health. The State Health Department has sponsored the training of approximately 60,000 food handlers in the proper handling and dispensing of foods and the sterilization of utensils. This has been accomplished by means of short schools which were started in 1938, and practically every state in the union has adopted this program that originated in Texas. Cooperation has been extended to our South and Central American neighbors in the training of public health personnel and more than ninety trainees from these nations have been given training and field orientation in Texas.

Texas has developed a school health service program that has received both national and international recognition. Predicated on seven basic points, this program has revolutionized the educational concept as related to the whole child, and the enviromental factors determining his growth and learning structure.

In 1937, only one venereal disease clinic was in operation in Texas. During 1946, there were ninety-seven clinics operating under the supervision of the State Health Department, and during that calendar year these clinics were utilized in diagnosing 25,660 new cases of syphilis, gonorrhea, and other venereal diseases. The total patient load for the year of new and old cases amounted to 42,083. The first rapid treatment hospital for syphilis was opened in El Paso in March, 1943, and today three such hospital centers are being maintained in Waco, San Antonio, and Overton. Through December, 1946 a total of 37,485 patients had been admitted for treatment in these centers. The average cost per patient day in these hospitals has been consistently low, as compared with other rapid treatment centers operated in the nation. The per patient day cost for these centers in Texas for February, 1947, was $3.68, while the latest average national figures available show a per patient day cost of $5.97.

The Tuberculosis Division emerged in 1936. The personnel at that time consisted of one physician, one nurse, one x-ray technician, and one stenographer. One small portable x-ray machine was used in case-finding procedures in the state.

This pattern of program was followed for several years, and it was not until 1944 that increased funds were available for a statewide tuberculosis control program. The means and personnel are now on hand to inaugurate a case-finding program. Personnel in the central office now consists of a director, five x-ray technicians, a film processor, one nurse, and two secretaries. Considerable personnel is located on the local level and works in specific county and city health units over the state in complementing the local tuberculosis program.

During the war years, the director of the Tuberculosis Division acted as the chairman of the review committee on tuberculosis for the State Selective Service System. A total of 16,127 films were received by the Department showing abnormal findings in the chest. Of this number, 10,010 were considered to possess significant tuberculosis. This information was relayed to the various agencies on the local level so that those cases of tuberculosis could be placed under medical observation and treatment. Although shortage of personnel prevented full use of this vital information, it was of inestimable value to several thousand patients whose tuberculosis was recognized for the first time.

A Division of Dental Health was created in the State Health Department in 1936, with a staff composed of one dentist and a stenographer. In the beginning, the dental program was limited to education, but it has gradually been expanded and has accomplished a valuable amount of clinical work for

underprivileged children and expectant mothers. This division has made 572,613 dental examinations in the past ten years and has completed 114,365 units of clinical correction on the 55,933 patients admitted for clinical service.

In 1936, the Bureau of Laboratories of the Texas State Department of Health examined 61,737 specimens. The number of specimens examined during 1946 was 167,324. During the period from 1936 to 1946, eighteen regional laboratories were established. During 1946 these laboratories examined 577,260 specimens.

Divisions of Entomology, Parasitology, and Virology have been added to the Bureau of Laboratories. The laboratory has engaged in various phases of research, including work on typhus control and poliomyelitis, and was responsible for the recognition of the first outbreak of "Q" fever in the United States. During World War II, the State Laboratory ran all the serologic tests for syphilis on the selectees in Texas.

A critical need is felt today, in Texas, for adequate research facilities. However, despite limited resources the State Health Department has developed and is carrying on research studies in fluorine as an inhibitor of dental caries in Marshall, dysentery and fly control in Hidalgo County, allergy control in Denton County, DDT and the poison 1080, school lighting in several Texas schools, irrigation water from the Rio Grande River, citrus waste and food preservation in the Rio Grande Valley, and conducts a meter and chlorinator repair school.

Today, there are more trained people engaged on a full-time basis in public health work in Texas than ever before in the history of the state. A merit system has been developed and all employees engaged in public health work must meet definite specifications designed for each position. Employment and professional progress is based entirely on the basis of qualifications and initiative of the individual.

To measure the gains in public health work, it is only natural to turn to the records of mortality, for here are indelibly recorded our successes and our failures. It must be remembered, however, that the very real betterment of the public health cannot be gauged entirely by death records, for much of our work is directed at reducing the incidence of those diseases which rarely terminate fatally.

Faced at every turn by adverse conditions of a magnitude that only a great war could bring about, public health work has, in spite of these serious handicaps, kept the death rate during the past five years at the lowest level ever recorded in Texas. Spectacular indeed has been the reduction in the crude death rate from 10.5 per 1,000 population in 1937 to 8.6 in 1946, which reduction has been achieved only through systematic and long continued effort. That so much has been accomplished is very gratifying to those who have worked to bring about these results.

Practically 1 out of every 4 deaths in 1946 was due to heart disease, which with apoplexy, nephritis, and cancer, accounted for nearly one-half of the total mortality last year. These four causes, which involve essentially those of middle life and old age, are exacting an ever-increasing toll of death against the population. Despite this fact, it has been possible, by reducing the mortality from preventable disease, to maintain and even lower the general death rate. This is nothing less than remarkable, and the control of preventable disease has done much to increase the proportion of the population reaching middle adult life.

Masked in the downward trend of the general death rate are striking examples of public health progress in reducing the mortality from diseases for which there are specific control measures.

In a full accounting of our public health, many favorable trends are revealed, but none of these affords more satisfaction than the phenomenal improvement made in infant and maternal death rates, which were so notoriously high ten years ago.

Many factors have contributed to the appreciable drop in the infant mortality rate. Not the least of these has been the marked success in reducing the mortality from diarrhea and enteritis, and herein lies one of our greatest opportunities for effecting further reduction in the infant mortality rate. The gains that have been reaped in lowering the infant death rate are especially significant because of the tremendous saving in potential years of life which has added so materially to the life expectancy of the population.

Out of every 1,000 babies born alive ten years ago, 74 failed to survive the first year. In 1946, this rate had dropped to 42, a reduction of 43 per cent. It should be noted that the rate of 42.3 per 1,000 live births last year was 15 per cent lower than that of 1945, which was 49.5.

The precipitous decline in the maternal death rate is ample evidence of the far-reaching advances made in lessening the risk associated with pregnancy and childbirth. The rate of ten years ago has been reduced by 70 per cent. In 1937, the odds that a mother would not survive pregnancy and childbirth

were more than three times as great as in 1946. The five year period, 1937-1941, saw the maternal death rate drop from 5.7 to 3.6 per 1,000 live births, a reduction of 37 per cent. The past five-year period began with a rate of 3.2 in 1942, and ended with 1.7 in 1946. That the maternal death rate was halved in the past five years is in itself an outstanding achievement. This gain has been made in spite of the manifold difficulties of the war years and the increased proportion of first births with which is associated a higher rate of mortality than with those births of higher orders.

We well realize that the present infant and maternal death rates are by no means irreducible minimums and that much remains to be done. That which has been accomplished becomes more significant if we determine what might have happened during the past ten years had no improvement been made in these rates.

Suppose the infant and maternal death rates of 1936 had continued unchecked through 1946. If such had been the case, there would have been 101,716 infant and 9,858 maternal deaths, but there were in fact only 80,937 infant and 5,002 maternal deaths. Continuing this supposition, we find that because of the lowering of these rates, 20,779 babies celebrated their first birthday and 4,856 mothers survived pregnancy and childbirth—a saving of more than 25,000 lives during the ten past years.

Typhoid fever seems to be well on its way into the limbo of almost forgotten diseases, for the death rate from this cause has been reduced from 6.3 per 100,000 population in 1937 to 0.7 in 1946. With continued effort we may soon expect to stamp out this disease for which there is no excuse in a civilized community.

Those who work to promote the public health may point with justifiable pride to the 60 per cent reduction in the death rate for diarrhea and enteritis brought about during the ten years just ended. A great proportion of deaths from this cause occur among those under 1 year of age, and as pointed out earlier, a further decline in the rate for diarrhea and enteritis will have a most favorable effect on the infant mortality rate.

The 2,374 deaths due to diarrhea and enteritis in 1937 is considerably more than double the 1,053 deaths occurring last year, even though the population during this period had increased by nearly 700,000. Practically all of the improvement in this rate for diarrhea and enteritis, which exacts so heavy a toll of young lives. has been made since 1940, and although our efforts have not gone unrewarded, here, nevertheless, lies a real challenge, the present rate being far too high.

Another striking feature of the public health picture is the notable reduction in the death rates for the chief communicable diseases of childhood—scarlet fever, whooping cough, diphtheria, and measles. The rate for this group as a whole has dropped from 14.1 per 100,000 population in 1937 to 4.1 in 1946, or more than 70 per cent. Last year, the combined rate for these four causes was about the same as that for diphtheria alone in 1937, and considerably less than the whooping cough rate of ten years ago. Examination of death rates for each of these diseases over the past ten years discloses that scarlet fever deaths have declined 87 per cent, whooping cough 78 per cent, diphtheria 61 per cent and measles 66 per cent. Last year, the death rates for whooping cough and diphtheria were at an all-time low.

Not all of the gains made in controlling these diseases are reflected in our death certificates, for these records would not show that the lessened incidence of these diseases has permitted a greater number of persons to enter adulthood without impairment of vital organs that these causes so often leave in their wake.

A progressive decline, year after year, in the tuberculosis death rate is an outstanding example of the success of public health work. The 1946 rate of 41.1 per 100,000 population is the lowest ever recorded, and is 40 per cent less than that of 68.6 in 1937. Tuberculosis in 1937 ranked fourth as a leading cause of death, but in 1946 it had been relegated to seventh place. The success of preventive and curative methods in combating tuberculosis has been proved and only when these measures are adequately expanded can the complete suppression of this disease be expected.

The 1937 death rate for influenza was 52.3 per 100,000 population. Compared with this towering rate of ten years ago, the 1946 rate of 9.1 represents a reduction of 83 per cent. The pneumonia death rate of 36.2 last year, is 58 per cent lower than that of 85.4 in 1937. The combined influenza-pneumonia rate last year was considerably less than the rate for influenza alone in 1937.

Immense gains have been made in lowering the mortality from preventable disease, but this partial success should give us no rest as long as unnecessary deaths occur. If our public health program could now be supplemented with some of the resources which

in the future must be spent for public relief, we could, at the same time, materially lessen the relief problem of years to come and save people much of the suffering and want which so often follow preventable deaths. The less we spend for public health today, the more we will spend for public relief tomorrow.

ABSTRACT OF DISCUSSION

Dr. B. E. Pickett, Sr., Carrizo Springs: With the conclusion of this paper, I most heartily agree: "The less we spend for public health today, the more we will spend for public relief tomorrow." This statement cannot be overemphasized. In this short discussion, it is utterly impossible to develop in any wise an intelligent consideration of the different subjects to which our attention has been directed in Dr. Cox's paper.

Therefore, I will here make known my position: Public health, state and national, should have the enthusiastic support not only of the medical profession, but of all the people. To do this, the people should be educated to what has been and is being accomplished through public health efforts and activities. The State Department of Health under Dr. Cox's leadership is to be congratulated, not only upon its progress in the field of expansion of health activities, but upon its splendid housing facilities.

The willingness of public health departments, state and national, to take credit for all improvements in reduction in mortality rates is unwarranted. At no other time in the history of the world has the medical profession, especially the family doctor, displayed the true metal of which the profession is made than was displayed in the decade referred to in this paper. Armed with the valuable remedies, specific and otherwise, that research under the guidance of the medical profession was able to supply, the physician was able to combat disease as never before in the history of the world. The State Department of Health should be commended indeed in its effort to work in complete harmony with the medical profession of Texas. In this way only can true progress be made in the prevention and treatment of disease.

PULMONARY EMBOLISM

Contrary to general opinion, pulmonary embolism occurs more frequently among medical patients than among surgical patients, according to a ten year study by Jacques Carlotti, Irad B. Hardy, Jr., Robert R. Linton, and Paul D. White, physicians at the Massachusetts General Hospital, Boston. The report, which appears in the August 23 issue of *The Journal of the American Medical Association*, points out that from 1936 to 1945 "although there were actually more than twice as many surgical cases (98,642) as medical (56,523), more than half (53.4 per cent) of all the patients with pulmonary embolism were medical (273 as compared to 238 surgical)." Male patients predominated; the majority of patients were more than 40 years of age, over half of them being from 50 to 70 years old; and most of the patients had heart disease.

The physicians advocate cutting the femoral vein to prevent blood clots originating in the leg from being carried by the blood stream to the lungs and possibly causing death. This operation was performed on 60 patients of whom 17 died. It was not performed on 213 patients, of whom 108 died. The mortality rate for the operated group was 28.3 per cent and for nonoperated cases 50.7 per cent.

UNIVERSITY OF TEXAS CHILD HEALTH PROGRAM

Report on Activities, 1944-1947

ARILD E. HANSEN, M. D.
Director, Child Health Program
GALVESTON, TEXAS

The University of Texas Child Health Program was inaugurated by the University authorities as a contribution toward the improvement of the health of citizens of the state. After the program was inaugurated the problem involved seemed of such magnitude that assistance was sought for its development. The William Buchanan Foundation, of Texarkana, has been particularly helpful in this respect.

It was my pleasure in 1944 to present the aims and objectives of the plan to the Section on Pediatrics of the State Medical Asso ciation of Texas, as well as to the House of Delegates. The principles were set forth and published subsequently in the TEXAS STATE JOURNAL OF MEDICINE.[1] Fundamentally, and as would appear natural for a University undertaking, basic activities were to revolve around the functions of education, research, and cooperation with professional organizations.

Early in the development of the plan it was necessary to prepare for the president of the University a report concerning the need for a child health program. Findings in this study, as well as other pertinent data, have been summarized and will be published in the near future. Few states in the union have greater need for child health programs than Texas. In fact, our studies revealed that more children die in Texas than in any other state in the union. Lenroot stated in a recent press release, that for each life lost in the armed services (Army, Navy, Coast Guard, and Marine Corps) throughout the war, 2 deaths occurred among the children of the United States. Regrettable and certainly surprising data from our study revealed that instead of 2, an average of about 4 deaths occurred in Texas children during this interval. Members of the Section on Pediatrics of the State Medical Association are fully cognizant of the responsibility which we as practicing physicians and specialists in the diseases of children have in correcting this unsatisfactory state of affairs.

EDUCATION

In starting the Child Health Program, the assumption was made that the health of the child was one of the state's most valuable assets. It is no mere assumption, however, to

Read before the Section on Pediatrics, State Medical Association of Texas, Annual Session, Dallas, May 6, 1947.

say that the greater the pediatric ability of the medical profession, the healthier the child. The implication is clear that a university program concerning child health should be educational and at the highest level. Efforts were directed toward enhancing the educational opportunities for medical students, student nurses, graduate, and postgraduate training.

Approximately two and a half times as many hours are devoted now to teaching pediatrics as were spent three years ago. Six weeks is devoted now to pediatric teaching for junior medical students in an intensified course with sick children in the hospital. Didactic lectures and large clinic demonstrations are kept at a minimum to provide more time for individual bedside teaching. Senior student activity is centered in the out-patient clinic, also for a six week period. The curriculum includes special clinics or conferences in the hospital and supervised examination and handling of children in the dispensary. For the sake of expediency, we consider training during an internship as part of the student program. Instead of one rotating internship, two interns now serve as straight pediatric interns for a six month period and two as rotating interns in the pediatric service. Interns participate in the various departmental activities.

The residency training by general agreement is considered the focal point in the development of the Child Health Program. It is obvious that the better the training program for future specialists in diseases of children, the better the pediatric point of view in all other specialties in a university teaching center. There are currently eight physicians in the pediatric residency training. One physician with two years of hospital experience in pediatrics assists in the teaching. In the past three years, fourteen physicians have received a portion of their residency training in pediatrics under the auspices of the program.

Fundamentally, it is not only necessary to provide a position of residency, but a suitable quality of training as well. Limited clinical facilities have retarded the development of adequate training from the start. Residency positions must be provided if the needs of Texas citizens are to be met. It is necessary to create hospital facilities in order to provide clinical teaching material. Attempts have been made to circumvent this lack by having clinical discussions, seminars, infant welfare clinics, and organized sessions for specific topics. Perhaps the most apparent lack in the residency training is the complete absence of opportunity for experience with acute contagious diseases of childhood. Creation of an isolation unit would enhance the efficiency of the program. Arrangements have been made with other institutions for resident physicians to obtain experience of this type. This of course does not satisfy the need for teaching medical students or nurses or for training at the postgraduate level. Pediatric cardiology, pediatric hematology, and pediatric tuberculosis are just beginning to be emphasized and, as might be expected, consideration is being given to psychogenic problems in pediatrics.

Nursing education in pediatrics is an important link in the effectiveness of a child health program. An insufficiently trained nurse can be a limiting factor in the efficiency of a physician in carrying out the decidedly different techniques for infants and children. The shortage of hospital facilities for children in Texas is conducive to the inadequacy of pediatric nurse training in the various schools. Although facilities are lacking for teaching nursing techniques for acute contagious diseases of childhood, studies in the care of premature infants have been started and psychologic approaches to pediatric nursing are being instigated. For example, student nurses are now receiving specialized instruction in the care of premature infants over a three month period. The first Pediatric Nursing Conference was held the third week in April, 1947.

RESEARCH

Admittedly, the University's number one function may be termed teaching, but it seems better to consider its chief function as "teaching and research." For that reason, the University of Texas Child Health Program has sought to stimulate activities in the investigative aspects of medicine with particular attention to problems deemed of utmost importance to infants and children in the state. Naturally, the type of research in any department is dependent upon the character and interest of the personnel as well as the clinical and laboratory facilities available.

Facilities.—At first, the Children's Hospital of the University of Texas was lacking completely in laboratory developments, and no funds were available from University or hospital sources. Through the generous support of the William Buchanan Foundation, a chemical laboratory, animal colony, and bacteriologic laboratory have been established. Previously instituted investigations with experimental animals in the field of nutrition could not be carried out unless additional animal facilities were to be found. A separate grant was made to the University in

order to build a second story on the existing animal building. Three rooms on its second floor are allocated to the Child Health Program. The bacteriologic laboratory is located on the second floor and the biochemistry laboratory is on the fourth floor of the Children's Hospital. These laboratories are all of such a nature that they are useful for teaching and for making certain laboratory determinations which are imperative in supplying the best service for sick children.

Problems under Investigation.—Studies in the field of lipid metabolism have been conducted for some time, but the problem of particular interest has been the possible relation of essential fatty acids to human nutrition. Experimental animals have been procured for this work and it has been established that a need for essential fatty acids exists in dogs. Young dogs deprived of fat in the diet develop an abnormality of the skin. In our studies it has been found that eczema in human subjects is probably related, at least in part, to the problem of fat metabolism. Data concerning our studies have been reported elsewhere.[2, 3] Increased facilities and competent research associates enabled this work to be carried out.

Inasmuch as the Child Health Program aimed to concentrate on problems of special importance to present and future generations of Texas children, it was important that attention be given to a study of diarrhea and dysentery. In 1943, for example, there were about 1,600 deaths from diarrhea in infants in Texas, whereas the state with the next highest diarrhea mortality had only about 600 deaths. In 1945, Dr. McDonald Fulton, noted for his investigative work with Salmonella, came to the Children's Hospital to study the bacteriologic phase of the diarrhea problem. A total of 418 specimens from suspected cases were examined from September, 1945, through September, 1946. One of the objectives in this study was the comparison of the different culture plating media to aid in the identification of types of organisms, namely, MacConkey, a general medium, and two differential media, SS, meaning Bacto Shigella Salmonella, and DC, a Baltimore Biological Laboratory product meaning desoxycholate citrate. The chief new developments relating to isolation of intestinal pathogens are (1) collection of the specimen by the rectal swab method; (2) use of plating media tending to inhibit the development of colonies of the coliform bacilli; (3) introduction of enrichment broth media, which also inhibit coliform bacilli and hence allow better growing conditions for the pathogens.

In the group of cases studied in the laboratory of the University of Texas Department of Pediatrics, it was found that known, accepted pathogens comprised only a minority of the cultures isolated. One-fourth of the isolations proved to be paracolon bacteria of various types. Another fourth belonged to the Proteus group or was closely related to it. Morgan's bacillus was encountered fairly frequently and was included in this division. Coliform bacteria were found in another fourth, but not only organisms which fermented lactose. The remaining quarter yielded Shigella, Salmonella, Pseudomonas, or Alcaligenes. It was the belief of Fulton, who was responsible for this work, that the increased accuracy in dealing with diarrheas which resulted from the more exact bacteriologic studies, especially with the Shigella group, has made the laboratory more useful to the physician dealing with this disease.

Another phase of the problem of diarrhea concerns metabolism, and we felt fortunate in the summer of 1946 to have Dr. Daniel C. Darrow of Yale University serve as visiting professor of pediatrics and to extend his important studies of mineral metabolism in infants with severe diarrhea. Thirty-one infants with diarrhea were studied—6 on whom carefully controlled mineral balance studies were made. These studies contributed both to the scientific understanding and to the practical control of the diarrhea problem. His findings revealed that the loss of the potassium ion from within the living cells of the body may be of distinct importance in making diarrhea such a severe disease.

Another special project of the Child Health Program has been a study of the effectiveness of penicillin in the treatment of children suffering from congenital syphilis. Dr. Erle E. Wilkinson served as chief investigator with Dr. William H. Saunders and myself as coworkers. Some 68 infants with congenital syphilis were studied. Results,[4, 5, 6] which have been reported with collaborators from other institutions, pointed out that penicillin is a valuable adjunct in the treatment of early congenital syphilis.

COOPERATION WITH PROFESSIONAL ORGANIZATIONS

It has been the happy experience and opportunity for those in the Child Health Program to function in joint efforts with various groups to further child health in Texas. It is felt that special commendation should be given the State Medical Association of Texas as well as the editors of the TEXAS STATE JOURNAL OF MEDICINE, the Maternal

and Child Health Division of the Texas State Board of Health, as well as the Board itself, the Texas Pediatric Society, Texas Section of the American Academy of Pediatrics, and the many individuals who have devoted much time and effort to support the program. Needless to say, cooperative activities such as these are bound to be in the realm of teaching and research; therefore, reference has already been made to some of them. For the sake of presentation, however, these will be considered as more or less specific projects.

Infant Welfare Clinics.—Problems of child health from the nursing, as well as the medical teaching standpoint, are being pursued in the infant welfare clinics in cooperation with the Galveston Public Health Nursing Service. The likelihood of developing the educational phase of the program by sponsoring periodic conferences has been increased greatly because of cooperation with the Division of Maternal and Child Health of the Texas State Board of Health.

Because of the teaching value of infant welfare clinics in emphasizing various preventive phases of medicine such as nutrition, immunization, psychological and emotional problems, it might be well briefly to discuss the clinic. Five well baby care clinics have been set up throughout Galveston. Attendance varies from 100 to 200 infants weekly. Clinical material thus made available is of educational value to medical students and nurses, as well as to the resident physicians in charge. In addition, some effort has been made in these clinics to conduct investigative studies in the field of nutrition and immunization.

Stewart Convalescent Home.—Provision for the convalescent care of children has been another matter of importance. The residence of Mr. Maco Stewart of Galveston, has been given to the University in which to establish such facilities. Dr. G. W. N. Eggers was instrumental in procuring this home, which is ample in size to care for from 25 to 30 children. Special attention is being given there to children crippled from orthopedic deformities and accidents and to others with damaged heart valves caused by the infection of rheumatic fever.

Premature Care.—In the Children's Hospital, lack of facilities for the care of premature infants was a definite detriment. In 1945, for example, Dr. Wilkinson of our staff, in a study of deaths of premature infants in the hospital found deplorable death rates among the babies who were referred to the hospital from the outside. This startling situation encouraged the development of a unit in which babies would receive proper care, and which could be used as a teaching center. Although at present there are accommodations for just 6 prematurely born infants, special training for seventy student nurses, a graduate nurse, eight residents, and some staff physicians and medical students has been provided. The premature division cared for 57 infants in 1946. In the future, we hope to secure additional space to house a unit equipped to take care of from 20 to 25 infants.

Texas Child Health Council.—Inasmuch as one of the fundamental aims of the Child Health Program was to cooperate with other organizations having similar purposes, it was believed that most could be achieved by joint activities and actual participation with professional groups. After a year of discussion, a Child Health Council was organized in 1945. The Council was so devised as to have representatives from the medical schools and various professional organizations meet to study problems concerning child health in Texas and to participate aggressively in programs directed to this purpose.

Lectureships.—From time to time distinguished speakers have been brought to Texas under the auspices of the Child Health Program. The first William Buchanan Lecture was given by Dr. Irvine McQuarrie, professor and head of the Department of Pediatrics at the University of Minnesota, who spoke on "Therapeutic Value of Penicillin in Pediatric Practice." The late Dr. James A. Plant, director, Essex County Juvenile Clinic, Newark, N. J., gave the second lecture, in 1945, on "Emerging Problems of the Pediatrician." "Developments in the Treatment of Infantile Diarrhea" was the subject chosen by Dr. Daniel C. Darrow, associate professor of pediatrics, Yale University School of Medicine, who gave the third William Buchanan Lecture in 1946.

Pediatric Conferences.—Particularly gratifying has been the periodic conferences sponsored by the Child Health Program. Great stimulation resulted from the first conference held in April, 1944, when such distinguished speakers as the late Dr. Chester A. Stewart, Dr. Irvine McQuarrie, Dr. J. H. Park, Jr., and Dr. H. Leslie Moore were guest lecturers. The second pediatric conference was devoted entirely to psychogenic problems in pediatrics. It was held in Austin. From the first pediatric conference through the seventh, which was held March 31 through April 5, 1947, these conferences

have developed into projects exemplifying specific features of our aims and giving postgraduate and refresher work both for the general practitioner who, incidentally, assumes most of the direct responsibility for the medical care of children, and the physician who specializes in pediatric medicine. Through the cooperation of the faculty of the schools of medicine and dentistry, the State Medical Association, members of the Texas Pediatric Society, the American Academy of Pediatrics, the Hogg Foundation, and the Maternal and Child Health Division of the Texas State Board of Health, there has been good response to these courses. Approximately forty guest speakers have participated in the seven conferences held since 1944. Attendance at these conferences has varied from 55 to 100 with a total of some 515 physicians having been registered to date.

Publications, Lectures, and Scientific Meetings.—During the developmental stage of the Child Health Program, it has been possible to prepare a number of articles for publication. Scientific contributions total thirty-five. Three semiscientific and lay articles have been written, and thirty papers of the postgraduate conference presentations were prepared by staff members. Fifty-seven speaking engagements and outside postgraduate conference dates were filled in the first three years of the University of Texas Child Health Program as part of its educational activities.

In attempting to give any general or pertinent data concerning the activities of the Child Health Program, we cannot help but express our great appreciation of the outstanding cooperation and stimulating interest and incentives derived from practicing physicians in Texas and their organization, the State Medical Association—especially those in the field of pediatrics—as well as colleagues on the staff of the University of Texas School of Medicine.

REFERENCES

1. Hansen, A. E.: University of Texas Child Health Program; Its Basic Principles and Objectives, Texas State J. Med. 40:338-340 (Oct.) 1944.

2. Hansen, A. E., and Burr, G. O.: Essential Fatty Acids and Human Nutrition, J.A.M.A. 132:855-859 (Dec. 7) 1946.

3. Hansen, A. E., and others: Eczema and Essential Fatty Acids, Am. J. Dis. Child. 73:1-18 (Jan.) 1947.

4. Platou, R. V., and others: Penicillin in Treatment of Infantile Congenital Syphilis; Brief Preliminary Note, J.A.M.A. 127:582 (March 10) 1945.

5. Platou, R. V., and others: Effect of Penicillin in Treatment of Infantile Congenital Syphilis, Am. J. Dis. Child. 72:635-648 (Dec.) 1946.

6. Platou, R. V., and others: Early Congenital Syphilis, Treatment of Two Hundred and Fifty-Two Patients with Penicillin, J.A.M.A. 133:10-16 (Jan. 4) 1947.

Department of Pediatrics, University of Texas School of Medicine.

CHILDREN WITH READING PROBLEMS

EUGENE L. ATEN, M. D.
DALLAS, TEXAS

In the past few years reading disabilities in children have become a problem for physicians, especially for pediatricians. A great deal of the available literature has been confusing because of the many theories having to do with both etiology and therapy. Children with reading disabilities are often considered retarded children or mental misfits. Since they present an individual problem they do not fit into the group educational methods used in the public schools and as a consequence do not obtain satisfactory educations. Parents become disturbed and are practically always at a complete loss as to why their children are not making proper progress at school. In this situation, numerous emotional factors are introduced which tend to make the problem even worse.

This problem has perhaps been made more apparent because of one method of instruction, that is, sight reading, introduced some years ago into the Texas school system. There are many advantages for the average person in learning by sight reading or by the flash card method, but for the child who has a visual reading problem this only increases his difficulties. With the system of phonetic reading there were fewer such problems evident, but the average reader was much slower in his reading and probably grasped the contents of what he was reading less readily than those who have learned sight reading.

There are numerous other advantages to sight reading which are not appreciated because of the complete inability of a few pupils to master this system of learning. A reading disability can be considered as a language disorder which involves defects of expression in speech or writing. As such, it actually becomes an aphasia. Specifically, however, an aphasia covers not only the sensory interpretation but the neuromuscular reaction. Pure aphasias are subject to neurological localization, usually in specific cortical areas. However, it is well to keep in mind that thought process is a dynamic function involving not only the actual pathways involved but such things as conditioning, memory, and so forth. Therefore, although a localized pathologic process may interrupt this dynamic process, most aphasic disorders cannot be specifically localized. In this instance it is the reaction to the written or printed word, and as such constitutes

Read before the Section on Pediatrics, State Medical Association of Texas, Annual Session, Dallas, May 6, 1947.

a reading problem known as alexia or word blindness.

Because of this definition there are of course many factors a physician should immediately rule out in diagnosing a true case of reading disability. The child who does not hear will undoubtedly have a reading disability because of improper sensations, either intrinsic or extrinsic. This, again, is primarily a problem of hearing and not of reading. The child who is mentally deficient will also be slow in learning to read. This does not come under the classification of true reading disorder and great care is necessary in order that the condition be definitely ruled out in cases presenting reading problems of word recognition. Naturally, spastic children with various muscular palsies, particularly those involving the eye muscles or speech organs, will have reading problems. Children with marked visual disorders will have reading problems, but again the etiology is primarily of the eye and not of interpretation of what the patient actually sees. It is necessary in dealing with a reading problem that the above conditions be searched for and their possibility as etiologic factors be always kept in mind.

Primarily, the type of case we are particularly interested in at this time involves the child whose aphasic picture is characterized definitely by a failure of translation out of a temporal order of acoustic events of speech into a spatial order on the written or printed page. This problem is closely related to the retarded development of dextralization. West said that "two neuromuscular developments are involved here: (1) the maturation of the ability to accomplish accurately parallel movements instead of mirrored movements with homologous muscles of the two sides." The first of these is important in reading, the second in writing, and both are important in speech; and it is frequently found in case reports of children with reading disabilities that there has been some speech difficulty.

In any coordinated horizontal movement involving homologous muscles for the performance of one act such as reading or speaking, it is necessary that the muscle action be entirely antagonistic. Therefore, in the maturation of the human being one of the cerebral hemispheres takes dominance over the other for the control of these particular movements. This is called dextralization. Ordinarily a child will become dominantly right-handed and right-eyed in reading. Therefore the left hand and the left eye coordinate in an antagonistic manner. This can be readily demonstrated in a normal person by having him write simultaneously on a blackboard with both the right and left hands. It will be found that the figures written by the left hand will be exactly the opposite of those written by the right hand. This is normal and is what could be considered good spatiotemporal orientation. The disability lies in the lack of this dextralization. It has been found that people who are left-handed and left-eyed seldom have reading problems; those who are right-handed and right-eyed seldom have reading problems; but where there is a mixture of handedness and eyedness reading problems are almost inevitable.

A child presenting a reading problem therefore presents really two diagnostic problems. One as to whether or not he really has a reading problem, and the other as to whether the difficulty is due to some extrinsic factor or the lack of development of cerebral dominance. Psychologists have long used many different tests for the determination of reading problems. Perhaps the most widely used are the Gray Oral Reading Test and the Gates Reading Tests. For practical purposes, in lieu of the use of these tests a brief examination can be given, usually in the following order: (1) It should be determined whether there is any physical disability, such as an eye condition, a hearing condition, or a definite neurologic impairment. (2) Some determination of the child's intelligence or what is frequently called his I. Q. should be made.

Pediatricians with experience ordinarily can make this determination with fair rapidity on a purely subjective comparison with other children of the same chronologic age. A few simple reading and writing tests will then suffice to determine the usual reading problems. Also, the child's oral report of his experiences, indicating his good comprehension, and his ability to deal with numerals as contrasted with his inferior word recognition, are other criteria. Although this procedure lacks the accuracy of the properly performed psychologic tests, for practical purposes it will detect sufficient reading problems, and at least it will indicate whether further diagnostic study is necessary.

It is presupposed that any child who is 7 years of age should be able to read some. There is a great variation in that there are children as young as 4 years of age who learn to read, and others as late as the age of 6 years who still cannot read. Usually a child of this age has learned to write his name. It can immediately be determined whether or not he is using his right or his

left hand, especially if he prints his name rather than writes it. It will be found that there are at least tendencies on the part of a child with a reading disability to begin at the opposite side in making his letters. For instance, a "U" will be started from the right hand side rather than the left hand side. Figures are perhaps more valuable in this connection than the alphabet. It is best to ask the child to write numbers up to 10. There may be actual reversals evident. It is then up to the examiner to single out such characters as the number 6 and write them in reverse and ask the child which is correct. The child with a reading problem will have a good deal of hesitancy in picking out characters that are reversed by the examiner or by himself from those that are correctly written. If he is far enough along in school to have learned some of his words, a comparison between "nip" and "pin" or "was" and "saw" or "baby" and "daddy" will give a suggestion as to whether he is reversing letters or whole words.

It would be well here to state that in sight reading the object is to read total words, phrases, or sentences as such, without identifying individual letters or sounding the individual letters. Ideally, then, a child can grasp the meaning of a total phrase or sentence at a glance, thereby increasing his speed of reading tremendously. It is apparent that a child with a reading disability has a marked handicap in this type of reading since he sees everything with an entirely different meaning. This is somewhat like a person finding it necessary to learn the Japanese language, in which everything is normally in reverse except the characters themselves. Experience indicates that persons with reading problems, even when they have more or less overcome their difficulty in the English language, have a great deal of trouble with foreign languages when they reach high school and college.

In remedying a reading problem it is necessary to employ all of the senses of the child. The Fernald method of reading correction utilizes sight, hearing, and touch. In this method a child is asked to read the word, to pronounce the word, and to listen to the word as it is read to him, and he is asked to write it by word tracing; occasionally actual plastic models of words are used and the child is allowed to trace these with his finger. This is a long, involved method but is extremely necessary.

It probably is best that children with reading disabilities be allowed to continue in school with their own age group of children as nearly as is possible. Their emotional adjustment demands that they have this association with other children. However, it will be necessary for children with this disability to have special tutoring, preferably by some one who has had experience and who thoroughly understands reading problems. However, because of the individual attention given the student, it is probable that any interested person can be of help to the child with a reading problem by giving him special lessons, preferably each day or a minimum of three times a week. It is best that the parents themselves not attempt this tutoring because usually there are so many other factors of an emotional character involved that the parents are not very successful. The extreme reading problem is a matter of individual tutoring. Such a technique as the child making his own reading material from his experiences in the beginning of his instruction serves to captivate his interest and gives a purposeful meaning in learning to read, as a child usually likes to impart to others what he has enjoyed.

There is probably no greater challenge to a teacher than to work with the reading problem. A thorough knowledge of phonics and their presentation as to gradation of complexity is essential. Much conversation with a child regarding similarities and dissimilarities in appearance of words both by teacher and child serves to hold his interest. The teacher should look upon the child's inattention as a by-product and not a cause, thus eliminating any suggestion that a disciplinary problem is involved. Ingenuity and imagination are essential traits for the teacher as each child presents his individual differences and there is no one prescription for this malady.

There have been other theories as to the remedial methods. Orton, in accordance with his theory of cerebral dominance, believed that the logical training of these children would be that of thorough repetitive drill on the fundamentals of phonetic association with letter forms, both visually presented and reproduced in writing, until the correct associations were built up and permanent relationship of the reversed images and reversals in direction was assured. Attempts have been made actually to change the hand and eye dominance which is apparently correct for the child to utilize. These attempts have not been too successful in correcting the condition. There seem to be two ages at which this difficulty is most aggravated. It has been found that a child who is predominantly right-handed and who breaks his arm at either the age of 3 or the age of 5 and has to use his left hand for skilled movements is

apt to develop some difficulty in reading. Or, the child who started out as left-handed and was changed by his parents at the age of 2 or 3 is apt to have a reading disability. Or, the child is apt to develop a reading problem when he begins school at the age of 5 or 6 and is made to change from a dominant right or left hand.

The emotional factor of a child's attitude should not be forgotten in dealing with this problem. It is all important that the child's cooperation be obtained and that he be given as clear an understanding of his difficulty as possible so that he may cooperate in the remedial program. With any method of remedial reading, most children do learn to read. However, I have seen many children who, although intellectually capable, have never been able to learn to read any except the most simple matter. It might be well to mention here that for some reason, not fully explained, most of these children have marked mechanical ability. Often their success in later life will depend upon their ability to develop this asset, and it is unwise to anticipate a complete correction of their reading difficulty with high academic achievement.

Most children with reading disabilities at one time or another are accused of having a visual disorder. There are a tremendous number of these children who have been fitted with glasses because of a muscular impairment, and so forth, with the expectation that this will correct their temporal spatial orientation. In the true reading disability problem, as has been pointed out previously, any visual error is entirely secondary in the correction of the reading problem and will not alone lead to its solution. However, it is important to keep in mind that every physical defect should be remedied. A complete physical examination is an absolute necessity in every child with a reading disability, and correction of any visual defect is the first step in remedying the condition.

In this article the disability involving word recognition or the extreme reading problem has been given most consideration. There are minor reading problems which present such errors as excessive repetitions, substitutions, and omissions. For these errors such corrective measures as concert reading and the use of a liner have been effective. With these errors, work in groups can be done. Emotionally, group work has the advantage of causing the child to realize that he is not the only one with such a problem.

SUMMARY

1. Reading disabilities should be recognized as a definite liability to a child's education.

2. All physical defects should be ruled out as causative factors.

3. Intellectual and emotional factors can produce this situation and should be ruled out before the diagnosis of a pure reading disability is made.

4. Accurate psychologic tests are available for many reading problems but practical objective observation can often determine the diagnosis.

5. The child's difficulty should be explained to him in terms he can understand and his active cooperation and interest in overcoming his difficulty elicited.

6. Tutoring is necessary and effort should be directed at building up a basic vocabulary of the most common words which the child must be able to recognize readily. Whenever the child comes to a word on which he hesitates, he should be given the word immediately so that he will not use the continuity of the context in his effort to decipher the words. It is valuable for the tutor to allow the child to use a liner or his finger as a pointer.

7. Too much can never be expected from a child with a severe reading problem. It is better that not all children be expected to fit into the same pattern. It is better to develop the child's other assets, such as mechanical ability, rather than to expect good performance in reading and high academic achievement.

REFERENCES

1. Gates, A.: Improvement of Reading, Rev. Ed., New York, Macmillan Co., 1936.
2. Monroe, M.: Children Who Cannot Read, University of Chicago Press, 1932.
3. Orton, S. T.: Reading, Writing and Speech Problems in Children, New York, W. W. Norton & Co. Inc., 1937.
4. Spache, G.: Case Studies in Binocular Reading, Am. J. Orthopsychiat. 13:723 (Oct.) 1943.
5. Sylvester, E., and Kunst, M. S.: Psychodynamic Aspects of Reading Problem, Am. J. of Orthopsychiat. 13:69 (Jan.) 1943.
6. Young, R. A.: Case Studies in Reading Disability, Am. J. of Orthopsychiat. 8:230 (April) 1938.

3511 Fairmount.

ABSTRACT OF DISCUSSION

Dr. Hugo A. Klint, Austin: The subject of reading difficulties has been like that of poliomyelitis; we prefer to avoid such cases if possible, yet when we take time to work with either one we thoroughly enjoy it.

The appreciation from the parents is great if their child who was not making proper school progress because of inability to translate the events of his daily life into the written page is directed to the proper channels where he acquires insight into his difficulties.

We need patience to work with this illness, the same patience that is required for muscle education in poliomyelitis or the patience required in feeding a 3 or 4 pound premature infant.

Dr. Edwin G. Schwarz, Fort Worth: Dr. Aten's presentation is really epochal, as I do not recollect ever having heard a subject of this nature discussed before this Association.

Naturally, the average practitioner or pediatrician

is not called upon to treat many of these cases, although they no doubt occur quite frequently in the referred practice of a child guidance clinic. Now that we have heard this discussion we will be better qualified to advise such patients as are seen.

It is gratifying to hear that many of these patients with reading problems do master other arts most successfully and are not necessarily relegated to the inferiority group. One point I would like to stress in the training of any child who is somewhat retarded or backward in his progress is that the parents, even though they are intelligent and well-trained, do not usually display the proper diligence or patience satisfactorily to teach their own children. Someone not too close to the child will accomplish much more, even though not so well qualified as a teacher.

Now that war is supposedly over, possibly we will find the time to treat this condition with more diligence, or to establish more child guidance clinics in each of the larger communities where such patients may be studied thoroughly and their requirements met.

DIAGNOSIS AND MANAGEMENT OF GOUT

E. L. LINDLEY, M. D.
and
JOHN W. MIDDLETON, M. D.
GALVESTON, TEXAS

Gout is frequently misdiagnosed because the patient does not present the classic features of the disease. Unless physicians become increasingly alert to the various manifestations of gout the diagnosis will continue to be missed, and as a result therapeutic mistakes will be made.

The etiology of gout is not known. Possible metabolic dysfunctions which have been held responsible are (1) diminished destruction of urates by the body; (2) diminished excretion of urate by the kidney; and (3) increased formation of urates by the body. Each theory has its proponents but there is no conclusive proof for any.

Gout is not a rare disease. It occurs in 5 per cent of patients seen by consultants on diseases of the joints at the Mayo Clinic.[4] While gout may affect the female, approximately 95 per cent of all gouty patients are male. Heredity plays a role and family incidences as high as 75 per cent have been observed. In general, symptoms appear among persons 35 years of age or more; rarely do they appear in infancy or adolescence. In some instances symptoms do not appear until the sixth and seventh decades. Gout has been found in people of all nationalities.

PATHOLOGY

The pathologic changes are dependent upon the deposition of sodium urate in the various tissues, and the resultant inflammation and degeneration. The exact mechanism is not known. The articular structures are most frequently involved. While certain joints are more prone to be involved than others, no joint is exempt. The metatarsophalangeal joints of the great toes lead in incidence, while the feet, ankles, and wrists are the next most common joints involved.

When urate deposits occur in tissues other than joints, they are commonly known as tophi. These are most commonly seen in the helix and anthelix of the ear, the olecranon and the prepatellar bursae, and the tendons of the fingers, wrists, toes, ankles, and heels.

Urate deposits in the kidney may lead to impairment of function, but there is no characteristic pathologic picture produced in the kidneys of gouty patients. Renal urate calculi, producing colic, are sometimes seen.

CLINICAL COURSE AND MANIFESTATION

Previous to the development of acute gouty arthritis, there is a larval or pre-arthritic stage which is generally but not always recognized; it may be accompanied by transient but definite hyperuricemia of varying degree. Gouty arthritis pursues a definite pattern consisting of two stages.[4] In the first stage there are recurring attacks of acute, painful arthritis. The first attack usually occurs in males who are in the third or fourth decade; the onset is sudden and lasts from three to ten or more days and then disappears completely. The great toe is involved in about 60 per cent of the cases, but any other peripheral joint may be affected without involvement of the great toe. The spine is almost never involved. Typically the attack comes on at night and the pain gradually increases in severity. The pain may be so intense that the weight of the bed clothes or vibrations of the bed may markedly increase the severity of the symptoms. Toward morning, the pain abates and the patient may fall asleep.

Examination of the joints at this time reveals a swollen, markedly tender joint and the skin overlying the joint is typically red or sometimes almost purple. As the swelling subsides, the cuticle peels and there is often local itching. When the great toe is affected, the maximal tenderness is usually on the medial aspect of the toe and not on the top or bottom as in rheumatoid arthritis. Effusions into the larger joints may occur. Olecranon bursitis or an Achilles tendinitis is not uncommon.

Early attacks are generally monarticular and afebrile. Other than the articular findings, physical examination is usually irrelevant. Sometimes a tophus may be found, indicating that the disease has been present for some time. The patient usually experiences complete recovery from his first at-

Read before the Section on Medicine, State Medical Association of Texas, Annual Session, Dallas, May 6, 1947.

tack. The second attack usually occurs after a year or so and may affect the same joint previously involved or a new one; recovery is again usually complete. Gradually the severity and tempo of the disease increase; attacks may come on in the spring and again in the fall or even more frequently. As the attacks progress a complete remission is less likely to occur and the patient approaches the second stage, chronic gouty arthritis. In a few cases, the disease is chronic from the onset.

Chronic gouty arthritis begins from five to forty years after the first attack; the average is usually twelve years.[4] No longer do the joints recover completely, and some stiffness, deformity, or pain remains. During the early phase of this stage of gout, the patient experiences acute attacks of arthritis with incomplete remission; the disease is now nearly always polyarticular and the joints of the hands and feet are swollen and misshapen. The olecranon and prepatellar bursae may be swollen. Subcutaneous tophi are found at various points. There may be ulceration of the overlying skin with discharge of the white, chalky material through the opening. These ulcerating lesions occur most commonly on the hands and feet but may occur anywhere on the body surface; it is very uncommon for them to become infected.

Tophi, found in about 50 per cent of all cases of gout, constitute the one pathognomonic lesion. They are very rare in the prearthritic stage, rare in the early phases of acute gouty arthritis, but are fairly frequent in the later phases. They are almost always present in chronic gouty arthritis where they may be mutiple and ulcerating.[4]

Fig. 1a. Tophus in the helix of the ear.
b. Subcutaneous tophi over the knees.
c. Subcutaneous tophus overlying the first interphalangeal joint of the little finger of the left hand.
d. Roentgenograms showing ankylosing arthopathy of the right ankle and intertarsal joints.

Various factors have been claimed to precipitate attacks of arthritis in gouty patients. The true significance and the exact relationship of these factors to the disease has not been determined. Among these are ill-fitting shoes, purine rich foods, excessive indulgence in alcoholic drinks, exposure to cold, severe

purgation, emotional upset, and certain drugs and surgical procedures.[3,4]

Progressive impairment of renal function may be encountered in gouty patients.[8] Urinary calculi have been found in 10 per cent. Arthritis in connection with renal colic should always suggest the presence of gout.[4]

DIAGNOSIS

There are numerous and reliable criteria for the diagnosis of gout and gouty arthritis.[8]

Family History.—The diagnosis may sometimes be suggested by obtaining a family history of gout. Inquiry should be made into as many generations as possible since gout may skip one or more generations.

Recurring Attacks of Joint Pain.—Sudden onset of attacks of pain with absolute disappearance of all joint phenomena between attacks is almost pathognomonic of gout. A physician should not be reluctant to diagnose gout if the metatarsophalangeal joint of the great toe is not involved, because this joint is involved in only about 60 or 70 per cent of the initial attacks.

Increased Concentration of Serum Urate.—Hyperuricemia is a frequent accompaniment of acute attacks; some investigators state that it is invariable and persistent,[8] but there is some disagreement on this point. In the chronic phases hyperuricemia is usually present. The physician should not be misled by hyperuricemia due to other causes.

Tophi.—Often the nature of an arthritis, previously diagnosed as rheumatic, is settled by the discovery of tophi. Tophi are found in only about 50 per cent of all cases of gout,[4] but when present are pathognomonic. A portion of the contents of the tophus should always be removed for identification by microscopic examination and the murexide test.

Roentgenographic findings consist of well-defined punched out areas usually 5 mm. or more in diameter, most commonly observed in the subchrondral bone at the bases or heads of the phalanges. These are osseous tophi, due to replacement of calcium salts by the sodium urates. It is now well recognized that a definite diagnosis of gout cannot be made on roentgen examination alone; in many instances, it has led to the wrong diagnosis.[7]

Renal Disturbance.—Since gouty nephritis and renal colic from urate gravel or stones accompany the second stage of gout in from 10 to 30 per cent of the cases, a physician should suspect gout in all cases of acute or chronic arthritis with renal colic or nephritis.

Response to Colchicine.—The dramatic response of acute gouty arthritis to colchicine is rarely observed in any other type of arthritis.[1,4,8]

DIFFERENTIAL DIAGNOSIS

Gouty arthritis may be confused with various arthritides, with acute bursitis, and with acute cellulitis of the hands or feet.

True traumatic arthritis begins immediately after the trauma. The inflammatory reaction is proportional to the severity of the trauma, and is confined to the traumatized region.

The arthralgia in gout is usually spontaneous, whereas in rheumatic fever it is usually evoked by motion, and there may be nonarticular findings such as precordial pain, weight loss, and epistaxis. Icnreased P-R intervals are not present in gouty arthritis.

Rheumatoid arthritis is usually marked by a more insidious onset than gout and the duration of single attacks is usually much longer. Loss of weight, malaise, and vasomotor changes are frequently seen in rheumatoid arthritis, which occurs more often in the female. In about 18 per cent of patients having rheumatoid arthritis, the onset may be atypical and the joint involvement may be polyarticular, migratory, or occasionally monoarticular. Recovery from the first attack is often complete.[1] Several attacks may ensue before the disease becomes chronic. Occasionally chronic gout may go on to ankylosis and may closely resemble the ankylosis seen in rheumatoid arthritis.[6] The association of rheumatoid arthritis and gouty arthritis is extremely rare, and although a few cases have been reported, their authenticity is questionable.[2]

In patients past the age of 50 degenerative joint disease may be confusing. Females are more often afflicted than males. In general, acute articular episodes are uncommon. However, degenerative joint disease may be associated either coincidentally or casually with gouty arthritis.

The acute phase of specific infectious arthritis, such as that due to the gonococcus, may sometimes simulate acute gouty arthritis. The presence of constitutional symptoms, the involvement of the larger joints of the body, history of a genito-urinary infection, and the response to the administration of the sulfonamides aid in the establishment of a diagnosis of gonorrheal arthritis. Rarely is the onset so sudden as in gouty arthritis.

Acute cellulitis of the hands and feet may occasionally cause confusion, and an incorrect diagnosis may lead to incision and drainage of an acute gouty joint. The diagnosis may be extremely difficult, especially in patients having painful, red, hot swelling of

the dorsum of the hand or foot, with or without lymphangitis and fever. A careful history and the absence of a skin abrasion or other portal entry for an invading organism is helpful in establishing the correct diagnosis.

Bursitis, especially when it occurs as a manifestation of a hallux valgus deformity, has undoubtedly been mislabeled as gouty arthritis on numerous occasions. In bursitis the swelling is limited to the bursa and the immediately adjacent tissues, and the distended sac may be easily palpated. Motions of the metatarsophalangeal joint are painless within a limited range.

In addition to the points mentioned, careful clinical observation, blood uric acid levels, and response to colchicine therapy will aid in the differential diagnosis.

TREATMENT

Prophylaxis.—Relatives, particularly male relatives, of patients with gout can decrease the possibility of the development of acute gout by avoiding obesity, foods rich in purines, and avoiding alcoholic and other known provocatives.

Acute Gouty Arthritis.—Treatment should be instituted as early as possible. The affected joints should be placed at rest, local pressure relieved, and an abundant fluid intake maintained. Local heat may give some relief; some patients prefer cold.

Colchicine in the form of tablets of 0.5 mg. (1/120 grain) each is given every one or two hours until evidence of toxicity appears (nausea, vomiting, diarrhea, abdominal cramps). There is only a small margin between the effective therapeutic dose and the dose which produces toxic manifestations; therefore, such manifestations are hard to avoid. Tolerance varies in different individuals, but is fairly constant in any one person. As a rule, the administration of the drug can be discontinued after from 6 to 12 doses have been given.[9] Response is dramatic, relief usually being complete within from twenty-four to seventy-two hours[8]. Salicylates or narcotics may be necessary to control pain until relief is obtained from colchicine and local treatment.

Interval Treatment.—Since colchicine provides relief only from the acute manifestations and does not cure gout, interval treatment should aim at the prevention of subsequent attacks and the development of complications.

Traditionally, the diet is restricted in purines both during the acute attack and in the intervals, and this plan is still recommended by most writers, although some doubt has recently been cast upon the efficacy of this measure.[2,8] Low purine diets are given in detail in standard medical texts.

In an attempt to control the hyperuricemia, the use of various drugs which increase the renal excretion of urates has been advocated. Salicylates, in the form of acetylsalicylic acid or sodium salicylate, in doses from 2 to 3.3 Gm. daily with equal quantities of sodium bicarbonate, may be given for several days each week. Cincophen is more effective in promoting urate excretion, but carries a definite risk of severe and even fatal liver damage. It may be given in doses of 0.5 Gm. (7.5 grains) three times daily for three consecutive days each week. If placed on this drug, patients should be instructed to report such unusual symptoms as anorexia, dyspepsia, nausea, loss of weight, pruritis, and jaundice, to stop taking the drug at once, and to report for special therapy.[5]

The various precipitating factors, mentioned above, should be avoided. Colchicine may be used in doses of 0.5 mg. three times daily for two or three days before and after operation. With the appearance of prodromal symptoms, colchicine in full therapeutic dosage should be started.

Surgical treatment may be of great help in the rehabilitation of chronically deformed joints.[2,3,8]

CASE REPORT

A. G., a 32-year-old Mexican male, was admitted to the hospital with complaints of stiff ankles and knees. Five years previously he had injured his right ankle, which then became red, hot, and swollen. Within three months it was beginning to ankylose in plantar flexion, and an Achilles tenotomy was performed. Subsequently ankylosis occurred. There were recurring episodes of evanescent arthritis involving various joints. Two years ago, the left ankle joint was involved and at the time of admission motion of this joint was limited to a few degrees. He had noted a small painless subcutaneous nodule on the dorsum of each hand. One month prior to admission ulcerating tophi appeared over each patella.

Past History.—Several years previously, he was treated for gonorrheal urethritis. His dietary intake was not abnormal for his race and economic status. He drank six or seven bottles of beer a week. The family and occupational history revealed nothing of significance.

Physical Examination.—The temperature was 101 F., pulse 100, respiration 20, blood pressure 140/90, weight 165 pounds, height 5 feet 10 inches. Positive findings included ankylosis of the right ankle in 135 degree plantar flexion; nearly complete ankylosis of the left ankle in 130 degree plantar flexion; and swollen, hot, tender knees, painful on motion. There was pain on motion of the left wrist, but no swelling. Tophi were noted on both ears, on the first interphalangeal joint of the left hand, in the extensor tendon of the right middle finger, and over the right lateral malleolus (fig. 1 a and c). Ulcerating tophi were present over both patellae (figure 1b). All of these were proved by microscopic and murexide tests. There were two small dark-field positive ulcers on the head of the penis.

Laboratory Examination.—The red blood count was 3,400,000, hemoglobin 9.4 Gm. Leukocyte and dif-

ferential counts were normal. Blood Kahn and Kolmer tests were positive. Blood nonprotein nitrogen was 60.9 mg. per 100 cc. Blood uric acid on admission was 6.3 mg. per 100 cc.; the highest reported was 8.7 mg.; on discharge it was 6.4 mg.

The highest specific gravity on urine concentration tests was 1.014. Phenolsulphonphthalein excretion varied from 36 to 50 per cent in two hours.

Roentgen Examination.—The heart, lungs, diaphragm, and bony framework were normal. The dorsal and lumbar spine and pelvis were normal. Both metatarsal phalangeal joints of the great toes showed irregular, scalloped destruction of the articular cortices and small, punched out rarefied areas in the distal head of the first metatarsal bone with narrowing of the joint space and a moderate amount of soft tissue swelling. The tarsus of each foot demonstrated advanced changes with rarefaction of the bones and narrowing of all joint spaces. There was irregular, scalloped appearance of the articular cortices and bony ankylosis. Both ankles were deformed with partial lateral subluxation, narrowing of the joint spaces, ankylosis and osteoporosis. The process in the right ankle was more advanced than in the left (fig. 1d).

The knee joints showed loss of the joint space, eburnation of the articular cortices, lateral and medial proliferative changes proximal to the articular cortices, and several punched out areas. The elbows, shoulders, wrists, and joints of the hand were normal.

The diagnosis of gout was suggested by hyperuricemia and the presence of tophi, and later substantiated by joint biopsy.

Course in Hospital.—No colchicine was available, but on a low purine diet and salicylates the patient became afebrile in ten days. Penicillin therapy for syphilis was instituted on the thirteenth day.

Biopsy of the first left metatarsophalangeal joint provided a grayish white chalky material which gave a positive murexide test and on section showed urate crystals. An osteotomy was performed on the right foot to place it in the position of maximum function. Material similar to that found in the toe was obtained. A tenotomy was performed on the left Achilles tendon to place the left foot in functional position.

Three months after admission the patient had an episode of pain in the left shoulder joint, which cleared in two days on salicylate therapy.

He has continued to have recurring episodes of arthritic pain, particularly in the wrists, since his discharge from the hospital, although he has adhered rigidly to his low purine diet. Symptoms are relieved within about seventy-two hours with colchicine, which is again available. When the patient was last seen eight months after his first admission, the blood uric acid still ranged from 6.6 to 8.0 mg. per cubic centimeter.

SUMMARY

Patients continue to suffer with gout because of a lack of appreciation of the various features of the disease. Diagnostic criteria include: (1) family history of gouty arthritis; (2) one or more acute attacks of joint pain; (3) increased concentration of serum urate; (4) the presence of tophi; (5) evidence of renal disturbance; and (6) response to colchicine therapy.

The essentials of therapy are reviewed and an unusual case presented.

REFERENCES

1. Bauer, W.: Diagnosis of Gout, New England J. Med. 229:583-590 (Oct. 7) 1943.
2. Bauer, W., and Klemperer, F.: Treatment of Gout, New England J. Med. 231:681-685 (Nov. 16) 1944.
3. Comroe, B. I.: Arthritis and Allied Conditions, Philadelphia, Lea and Febiger. 1940, p. 490-530.
4. Hench, P. S.: Diagnosis and Treatment of Gout and Gouty Arthritis, J. A. M. A. 116:453-459 (Feb. 8) 1941.
5. Hench, P. S.; Vanzant, F. R.; and Nomland, R.: Basis for Early Differential Diagnosis of Gout; Clinical Comparison of 100 Cases Each of Gout, Rheumatic Fever and Infectious Arthritis, Tr. A. Am. Physicians 43:217-229, 1928.
6. Ludwig, A. O.; Bennett, G. A.; and Bauer, W.: Rare Manifestation of Gout: Widespread Ankylosis Simulating Rheumatoid Arthritis, Ann. Int. Med. 11:1248-1276 (Jan.) 1938.
7. McCracken, J. P.; Owens, P. S.; and Pratt, J. H.: Gout; Still a Forgotten Disease, J. A. M. A. 131:367-372 (June 1) 1946.
8. Talbott, J. H.: Gout, New York, Oxford University Press, 1943, pp. 80-130.
9. Wilder, R. M., and Sprague, R. G.: Gout, in Musser, J. H.: Internal Medicine, Philadelphia, Lea and Febiger, 1945.

University of Texas School of Medicine.

ABSTRACT OF DISCUSSION

Dr. Raymond Gregory, Galveston: Gout is not difficult to diagnose if the criteria outlined in this paper are followed. Gout is frequently not correctly diagnosed because the level of suspicion of the possibility of gout by practicing physician is not high enough. It is hoped that this excellent brief presentation of the subject will serve to increase that level of suspicion.

A careful clinical appraisal of the case is still the best means of diagnosing early gout. Roentgen studies are of no positive value. The uric acid levels of the blood may be abnormally high before an acute attack of gouty arthritis only to fall rapidly to normal with the attack. The uric acid determinations are done preferably on serum from blood which has been allowed to clot and has been centrifuged under oil.

The tophi should not be confused with the nodules seen in rheumatic fever and rheumatoid arthritis. Identification can only be made by incising or needling the tophi and microscopic and chemical identification of the urate crystals.

Although many years are commonly required for gouty arthritis to cause serious joint and bone deformity, the case presented again confirms the established knowledge that such deformity may occur within several years.

Dr. H. T. Englehardt, Houston: Gout is a disease about which physicians have known since antiquity. In spite of this, surprisingly little has been added to the original descriptions by Hippocrates and Aretaeus the Cappadocian. It was this latter physician who it is said first described the cloudy, yellow, scanty urine which is observed in persons who have acute attacks of gout.

As the essayists indicated, there are three possible metabolic dysfunctions which may cause this disease, but it is generally admitted that the most likely cause of the hyperuricemia is decreased excretion of uric acid. However, retention of uric acid is certainly not due to a renal failure as we understand the term. Nevertheless, it has been fairly well demonstrated that patients suffering from gout whose blood contains a high concentration of uric acid sooner or later develop some manifestations of kidney disease. Maurice Schnitker and Arthur Richter found an incidence of 31 per cent of chronic nephritis in 55 cases of true gout.

From the investigations of these authors and others it would appear that the renal expression of gout is primarily a vascular one. This is to be expected since the incidence of generalized vascular disease is much higher in persons with gout than in those with other chronic diseases such as pernicious anemia and chronic arthritis. The evidence at hand would indicate that although the diagnosis of glomerulonephritis may be made on some persons with gout, it is in all probability a coincidental finding. It is well to emphasize that the level of

uric acid may be elevated in the presence of a true nephritis without any evidence of gout.

The presence of tophi is equally difficult to explain—certainly it is not the result of saturation of the blood with uric acid, and it has been demonstrated that the concentration of uric acid does not reach the limit of solubility in the blood. We know, for example, that other diseases accompanied by a high uric acid blood level, such as leukemia and nephritis, are not characterized by the presence of tophi. If our knowledge of gout is to progress we shall have to be on the lookout for cases of gout and attempt to apply the criteria outlined in the paper.

BABY LUNG DEVELOPED

The Army Air Forces has reported development of a "baby lung," weighing only a few ounces, which fits into the palm of a hand and can be attached to most standard oxygen equipment in general use today. Its function is to convert the constant pressure emitted from an oxygen tank into a pulsating pressure simulating actual breathing. The "baby lung" can be used for artificial respiration and for emergency treatment in infantile paralysis cases. During the Midwest outbreak of polio in 1946 the "baby lung" was credited with saving a number of lives.

MEDICAL OFFICERS RETURNING TO TEXAS*

	NAME	Serv.†	Location	Release Date
	Armstrong-Donley-Childress-Collingsworth-Hall Counties			
3.	Achor, M. F.	N	Turkey[1]	
4.	Hart, Walter F.	A	Memphis	
	Bexar County			
184.	Hill, Alfred H.	A	San Antonio	Mar., 1946
185.	Kirkpatrick, Robert H.	A	San Antonio	
186.	McCollum, Granville G.	A	San Antonio[2]	
187.	Mullins, James N.	A	San Antonio	
188.	Nisbet, Alfred A.	A	San Antonio	
189.	Smith, William C.	A	San Antonio	Feb., 1947
190.	Wolf, William M., Jr.	A	San Antonio	
191.	Wyatt, Byron W.	A	San Antonio	Jan., 1946
	Brooks-Duval-Jim Wells Counties			
11.	Wood, Lloyd G.	A	Alice	
	Cameron-Willacy Counties			
28.	Thompson, Jesse E.	A	San Benito	
	Dallas County			
281.	Brandt, Donald H.	A	Dallas	Mar., 1947
282.	Geigerman, David J.	A	Dallas	
283.	Jayson, Arthur Victor	A	Dallas	
284.	Johnson, Joseph K.	A	Dallas	
285.	Landress, Byron		Garland	
286.	Park, James W., III	A	Dallas	
287.	Payne, William T., III	A	Dallas	
288.	Powell, Homer	A	Dallas	
289.	Womack, Jack I.	A	Dallas	
	Denton County			
8.	Mustain, Rhoads	A	Aubrey	
9.	Thomas, James David	A	Denton	
	Eastland-Callahan Counties			
11.	Jackson, Leland F., Jr.	A	Baird	
	El Paso County			
76.	Britton, Bloyce H.		El Paso	
	Galveston County			
71.	Flanary, Lemuel M., Jr.	A	Galveston	
72.	Prestridge, Barney B.	A	Galveston	
73.	Schultz, Leon	A	Galveston	
74.	Stone, Charles T., Jr.	A	Galveston	
	Hansford-Hemphill-Lipscomb-Roberts-Ochiltree Counties			
4.	Pearson, Huston	A	Spearman	
	Hardeman-Cottle-Foard-Motley Counties			
5.	Smith, Thomas B.	A	Paducah[3]	
	Harris County			
310.	Bartlett, Henry L.	A	Houston	
311.	Conte, Raphael	A	Houston	
312.	Daily, Herschel	A	Houston	
313.	Girard, Louis J.	A	Houston	
314.	Groff, Archie E.	A	Houston	
315.	Levy, Moise D., Jr.	A	Houston	
316.	Windrow, Nuel C., Jr.	A	Houston	Mar., 1946
	Harrison County			
12.	Rosengarten, Leonard M.		Marshall	
	Hill County			
7.	Buie, James M.	A	Whitney[1]	
	Hutchinson-Carson Counties			
5.	McSpadden, Floyd F.	A	Phillips	
	Jefferson County			
63.	Keates, Albert E., Jr.	A	Beaumont	
64.	Mills, Morris J.	A	Beaumont	
	Lamar County			
11.	Hunt, Thomas E., Jr.	A	Paris	Oct., 1947
12.	Strong, James C.	A	Paris	Feb., 1946
	Lubbock-Crosby Counties			
34.	Abbott, Jack P.	A	Lubbock	
35.	Watkins, Mina D.		Lubbock	
	McLennan County			
63.	Colgin, Merchant W.	A	Waco	Feb., 1947
64.	Friedman, Carl	A	Waco	
65.	Harrison, Dan A., Jr.	A	Waco	
66.	Lupo, Thomas G.	A	Waco	
	Medina-Uvalde-Maverick-Val Verde-Edwards-Real-Kinney-Terrell-Zavala Counties			
10.	Stool, Joseph A.	A	Del Rio	
	Milam County			
5.	Walker, J. D.		Cameron[2]	
	Navarro County			
6.	Mitchell, Paul H.	A	Corsicana	
	Nolan-Fisher-Mitchell Counties			
14.	Hood, Francis	A	Sweetwater[3]	Sept., 1947
15.	Patterson, Marcel	A	Rotan	
	Nueces County			
40.	Tabler, J. Walton	N	Corpus Christi	
	Polk-San Jacinto Counties			
4.	Kirby, Thomas J., Jr.	A	New Willard	
	Potter County			
38.	Siebel, Eldon K.	A	Amarillo	
39.	Watkins, Walter C.	A	Amarillo	
	San Patricio-Aransas-Refugio Counties			
13.	McElveen, William C.	A	Aransas Pass[4]	
	Shelby-San Augustine-Sabine Counties			
10.	Burrows, John B.	A	San Augustine	
	Smith County			
20.	Cooke, Lane B.	A	Tyler	
21.	Fischer, John P.	A	Tyler	
	Tarrant County			
103.	Conner, Cooper M.	A	Fort Worth	
104.	Elder, John F.	A	Arlington	
105.	Tucker, John T., Jr.	A	Fort Worth	
106.	Wynne, Harrison K.		Fort Worth	
	Taylor-Jones Counties			
28.	Hamilton, Hinton H.		Abilene	
	Travis County			
79.	Lippmann, Otto	A	Austin	Apr., 1947
	Wichita County			
33.	Meredith, Duane W.	A	Wichita Falls	
34.	Small, David E.	N	Wichita Falls	Jan., 1946
	Williamson County			
11.	Godbey, J. Campbell, Jr.	A	Taylor[5]	

†=Army; N=Navy; U=U. S. Public Health Service.

*EDITOR'S NOTE: This list is the twentieth of a series naming physicians who have been in the Armed Forces during the war recently passed and who have now returned to Texas to resume civilian practice. The information in this list has been assembled from a variety of sources. While an attempt has been made to secure as complete and as accurate data as possible, we are aware that omissions and errors have been made. For the permanent records in the central office of the State Medical Association, we invite and urge correction of and addition to the material here submitted. Note that physicians from each county area are numbered consecutively following those listed in the September Journal; the last number in each section therefore indicates the total physicians returned to that county area. The complete total for Texas named to date (November 25), including the accompanying list, is 2,275.

[1]Formerly of Clarendon.
[2]Formerly of Mason.
[3]Formerly of Temple.
[1]Formerly of Mertens.
[2]Formerly of Big Spring.
[3]Formerly of Plano.
[4]Formerly of Houston.
[5]Formerly of Dallas.

MISCELLANEOUS

COMING MEETINGS AND CLINICS

State Medical Association of Texas, Houston, April 26-29, 1948. Dr. B. E. Pickett, Sr., Carrizo Springs, President; Dr. Holman Taylor, 1404 W. El Paso St., Fort Worth 3, Secretary.

American Medical Association, House of Delegates, Cleveland, January 5-6, 1948; Special Scientific Session, Cleveland, January 7-8, 1948; Regular General Session, Chicago, June 21-25, 1948. Dr. Edward L. Bortz, Philadelphia, President; Dr. George F. Lull, 535 North Dearborn St., Chicago 10, Secretary.

NATIONAL AND REGIONAL

American Academy of Allergy, St. Louis, December 15-17, 1947. Dr. Will C. Sprain, New York, President; Dr. Theodore L. Squier, 424 East Wisconsin Ave., Milwaukee, Secretary.

American Academy of Dermatology and Syphilology, Chicago, December 6-11, 1947. Dr. Edward A. Oliver, Chicago, President; Dr. Earl D. Osborne, 471 Delaware Ave., Buffalo. N. Y., Secretary.

American Academy of Neurological Surgery. Dr. William S. Keith, Toronto, Canada, President; Dr. T. C. Erickson, 1300 University Ave., Madison 5, Wis., Secretary.

American Academy of Ophthalmology and Otolaryngology, Chicago, October 12-17, 1948. Dr. Alan C. Woods, Baltimore, President; Dr. W. L. Benedict, Mayo Clinic, Rochester, Minn., Secretary.

American Academy of Pediatrics, Dallas, December 8-11, 1947. Dr. Lee F. Hill, Des Moines, Iowa, President; Dr. C. G. Grulee, 636 Church St., Evanston, Ill., Secretary.

American Association for Thoracic Surgery, Quebec, 1948. Dr. Alton Ochsner, New Orleans, President; Dr. Brian Blades, George Washington University School of Medicine, Washington, D. C., Secretary.

American Association of Genito-Urinary Surgeons, Skytop, Pa., May 12-14, 1948. Dr. C. E. Burford, St. Louis, President; Dr. Norris J. Heckel, 122 S. Michigan Ave., Chicago, Secretary.

American Association of Obstetricians, Gynecologists, and Abdominal Surgeons, Hot Springs, Va., September 9-11, 1948. Dr. Robert D. Mussey, Rochester, Minn., President; Dr. L. A. Calkins, University of Kansas Medical Center, Kansas City, 3, Secretary.

American College of Physicians, San Francisco, April 19-23, 1948. Dr. Hugh J. Morgan, Nashville, Tenn., President; Mr. E. R. Loveland, 4200 Pine St., Philadelphia 4, Secretary.

American College of Radiology, Chicago, June 19-20, 1948. Dr. Edwin C. Ernst, St. Louis, President; Dr. Mac F. Cahal, 20 N. Wacker Drive, Chicago 6, Secretary.

American College of Surgeons. Dr. Irvin Abell, Louisville, Ky., President; Dr. Paul B. Magnuson, 40 E. Erie St., Chicago 11, Secretary.

American Congress of Physical Medicine. Dr. H. Worley Kendall, Chicago, President; Dr. Richard Kovacs, 2 E. 88th St., New York 28, Secretary.

American Dermatological Association. Dr. Paul A. O'Leary, Rochester, Minn., President; Dr. Harry R. Foerster, 208 E. Wisconsin Ave., Milwaukee, Secretary.

American Gastro-Enterological Association, Atlantic City, May 31-June 1. Dr. Henry L. Bockus, Philadelphia; Dr. Dwight L. Wilbur, 655 Sutter St., San Francisco, Secretary.

American Gynecological Society. Dr. Edmund A. Schumann, Philadelphia, President; Dr. Howard Taylor, Jr., 842 Park Ave., New York 21, Secretary.

American Hospital Association, Atlantic City, September 20-24, 1948. Mr. Graham L. Davis, Battle Creek, Mich., President; Mr. George P. Bugbee, 18 E. Division St., Chicago, Executive Secretary.

American Laryngological, Rhinological and Otological Society, Atlantic City, April 7-9, 1948. Dr. Lyman G. Richards, Brookline, Mass., President; Dr. C. S. Nash, 277 Alexander St., Rochester 7, N. Y., Secretary.

American Neurological Association. Dr. George Wilson, Philadelphia, President; Dr. H. Houston Merritt, Montefiore Hospital, New York 67, Secretary.

American Ophthalmological Society, Hot Springs, Va., May 16-19, 1948. Dr. Henry C. Haden, Houston, President; Dr. W. S. Atkinson, 129 Clinton St., Watertown, N. Y., Secretary.

American Orthopedic Association. Dr. Robert I. Harris, Toronto, Canada, President; Dr. C. Leslie Mitchell, Henry Ford Hospital, Detroit 2, Secretary.

American Otological Society. Dr. B. J. McMahon, St. Louis, President; Dr. Gordon D. Hoople, 713 E. Genesee St., Syracuse 3, N. Y., Secretary.

American Pediatric Society. Dr. Grover F. Powers, New Haven, Conn., President; Dr. Henry G. Poncher, 1819 W. Polk St., Chicago 12, Secretary.

American Proctologic Society, Chicago, June, 1948. Dr. George H. Thiele, Kansas City, Mo., President; Dr. Vernon G. Jeurink, 1612 Tremont Pl., Denver 2, Secretary.

American Psychiatric Association, Portland, Ore., May 9-14, 1948. Dr. Winfred Overholser, Washington, D. C., President; Dr. Leo H. Bartemeier, General Motors Bldg., Detroit, Secretary.

American Public Health Association. Dr. Harry S. Mustard, New York, President; Dr. R. M. Atwater, 1790 Broadway, New York 19, Secretary.

American Roentgen Ray Society, Chicago, September 14-18, 1948. Dr. J. B. Edwards, St. Louis, President; Dr. H. Dabney Kerr, University Hospital, Iowa City, Secretary.

American Society of Anesthesiologists, New York, December 4-5, 1947. Dr. Edward B. Tuohy, Rochester, Minn., President; Dr. Curtiss B. Hickcox, 745 Fifth Ave., New York 22, Secretary.

American Society of Clinical Pathologists. Dr. Theodore J. Curphey, Hempstead, N. Y., President; Dr. A. S. Giordano, 531 N. Main St., South Bend, Ind., Secretary.

American Surgical Association. Dr. Elliott C. Cutler, Boston, President; Dr. W. M. Firor, Johns Hopkins Hospital, Baltimore 5, Secretary.

American Urological Association, Boston, May 17-20, 1948. Dr. Charles McMartin, Omaha, Neb., President; Dr. T. D. Moore, 899 Madison Ave., Memphis 3, Tenn., Secretary.

Association of American Physicians, Chicago, June 18-19, 1948. Dr. A. H. Gordon, Montreal, President; Dr. H. M. Thomas, Jr., 1201 N. Calvert St., Baltimore 2, Secretary.

Central Neuropsychiatric Association, Kansas City, Fall, 1948. Dr. William C. Menninger, Topeka, Kan., President; Dr. Lee Eaton, Mayo Clinic, Rochester, Minn., Secretary.

International College of Surgeons, U. S. Chapter. Dr. Herbert Acuff, Knoxville, Tenn., President; Dr. Louis J. Gariepy, 16401 Grand River Ave., Detroit 27, Secretary.

National Tuberculosis Association. Dr. James R. Reuling, Bayside, N. Y., President; Dr. H. Stuart Willis, 1790 Broadway, New York 19, Secretary.

Radiological Society of North America, Boston, November 30-December 5, 1947. Dr. Frederick W. O'Brien, Boston, President; Dr. D. S. Childs, Medical Arts Bldg., Syracuse 2, N. Y., Secretary.

Southern Medical Association. Dr. A. LeDoux, New Orleans, President; C. P. Loranz, Empire Building, Birmingham, Ala., Secretary-Manager.

Southern Psychiatric Association. Dr. Guy F. Witt, Dallas, President; Dr. Newdigate M. Owensby, 384 Peachtree St. N. E., Atlanta, Ga., Secretary.

Southern Surgical Association, Hollywood, Fla., December 9-11, 1947. Dr. Frank S. Johns, Richmond, Va., President; Dr. Alfred Blalock, Johns Hopkins Hospital, Baltimore 5, Secretary.

Southwest Allergy Forum, Oklahoma City, Okla., April 5-6, 1948. Dr. Herbert J. Rinkel, Kansas City, Mo., President; Dr. Fannie Lou Leney, 1200 N. Walker, Oklahoma City, Okla., Secretary.

Southwest Medical Association, El Paso, November, 1948. Dr. J. M. Greer, Phoenix, Ariz., President; Dr. Wickliffe R. Curtis, First National Bank Building, El Paso, Secretary.

United States-Mexico Border Public Health Association, Laredo, Texas, and Nuevo Laredo, Mexico, March 20-22, 1948. Dr. James R. Scott, Santa Fe, N. Mex., President; Dr. M. F. Haralson, 314 U. S. Court House, El Paso, Secretary.

STATE

Texas Association of Medical Anesthetists, Houston, April 26-29, 1948. Dr. Robert A. Miller, San Antonio, President; Dr. Harvey C. Slocum, 928 Strand, Galveston, Secretary.

Texas Association of Obstetricians and Gynecologists, Houston, October, 1948. Dr. Warren E. Massey, Dallas, President; Dr. George Adam, 4115 Fannin, Houston, Secretary.

Texas Chapter, American College of Chest Physicians, Houston, April 26-29, 1948. Dr. H. Frank Carman, Dallas, President; Dr. Charles J. Koerth, Kerrville, Secretary.

Texas Club of Internists. Dr. N. D. Buie, Marlin, President; Dr. Victor E. Schulze, San Angelo, Secretary.

Texas Hospital Association, Dallas, March 4-6, 1948. Mr. Thomas H. Head, San Angelo, President; Mrs. Ruth Barnhart, 2210 Main St., Dallas, Secretary.

Texas Neuropsychiatric Association, Dr. A. Hauser, Houston, President; Dr. David Wade, 604 Capital National Bank Bldg., Austin, Secretary.

Texas Orthopedic Society, Houston, April 26-29, 1948. Dr. Walter Stuck, San Antonio, President; Dr. Ruth Jackson, 3629 Fairmount St., Dallas, Secretary.

Texas Pediatric Society, Business Meeting, Dallas, December, 1947. Dr. C. B. Alexander, San Antonio, President; Dr. John E. Ashby, 3610 Fairmount, Dallas, Secretary.

Texas Public Health Association, Houston, February, 1948. Dr. S. W. Bohls, San Antonio, President; Mr. Earle W. Sudderth, Dallas County Health Department, Court House, Dallas, Secretary.

Texas Radiological Society, Temple, January 17, 1948. Dr. C. A. Stevenson, Temple, President; Dr. R. P. O'Bannon, 650 Fifth Ave., Fort Worth, Secretary.

Texas Railway and Traumatic Surgical Association, Houston, April 26-29, 1948. Dr. Linwood H. Denman, Lufkin, President; Dr. Ross Trigg, First National Bank Bldg., Fort Worth, Secretary.

Texas Society for Mental Hygiene, El Paso, March 11-13, 1948. Dr. Ozro T. Woods, Dallas, President; Mrs. Elizabeth F. Gardner, 1617 Watchhill Road, Austin 21, Executive Secretary.

Texas Society of Gastroenterologists and Proctologists, Houston, April 26-29, 1948. Dr. George Underwood, Dallas, President; Dr. Carl Giesecke, 1602 Nix Professional Bldg., San Antonio, Secretary.

Texas Society of Ophthalmology and Otolaryngology, Houston, December 5-6, 1947. Dr. W. E. Vandevere, El Paso, President; Dr. E. D. Dumas, 425 Medical Arts Bldg., San Antonio, Secretary.

Texas Society of Pathologists, Galveston, January 25, 1948. Dr. D. A. Todd, San Antonio, President; Dr. C. T. Ashworth, Southwestern Medical College, Dallas, Secretary.

Texas State Heart Association, Houston, April 26-29, 1948. Dr. DeWitt Neighbors, Fort Worth, President; Dr. Merritt B. Whitten, 1421 Medical Arts Bldg., Dallas, Secretary.

Texas State Urological Society, Dallas, February 2, 1948. Dr. Jo C. Alexander, Dallas, President; Dr. Hub Isaacks, Medical Arts Bldg., Fort Worth, Secretary.

Texas Surgical Society, Fort Worth, April, 1948. Dr. G. W. N. Eggers, Galveston, President; Dr. Truman G. Blocker, University of Texas Medical Branch, Galveston, Secretary.

Texas Tuberculosis Association. F. K. Dougharty, Liberty, President; Miss Pansy Nichols, 700 Brazos, Austin, Executive Secretary.

DISTRICT

Second. Big Spring, District Society. Dr. R. B. G. Cowper, Big Spring, President; Dr. H. A. Briggs, Midland, Secretary.

Third, Panhandle, District Medical Society. Dr. C. E. High, Pampa, President; Dr. Kenneth Flamm, Amarillo, Secretary.

Fourth District Society, Ballinger. Dr. J. C. Young, Coleman, President; Dr. Charles F. Bailey, Ballinger, Secretary.

Fifth and Sixth Districts Society. Dr. Kleberg Eckhardt, Corpus Christi, President; Dr. Charles Tennison, Nix Professional Building, San Antonio, Secretary.

Seventh, Austin, District Society, Spring, 1948. Dr. M. I. Brown, Austin, President; Dr. David Wade, 604 Capital National Bank Bldg., Austin, Secretary.

Eighth, Ninth and Tenth Districts, South Texas, Society. Dr. T. O. Woolley, Orange, President; Dr. James Greenwood, Jr., 518 Medical Arts Bldg., Houston 2, Secretary.

Eleventh District Society, Palestine, Spring, 1948. Dr. Robert Bell, Palestine, President; Dr. C. B. Young, 929 S. Confederate, Tyler, Secretary.

Twelfth, Central Texas, District Society, Waco, January 13, 1948. Dr. W. Howard Wells, Waco, President; Dr. H. F. Connally, Jr., Amicable Bldg., Waco., Secretary.

Thirteenth, Northwest, District Society, Dr. Frank Hodges, Abilene, President; Dr. A. D. Roberts, Medical Arts Bldg., Fort Worth, Secretary.

Fourteenth District Society, Dallas, December 9, 1947. Dr. H. Frank Carman, Dallas, President; Dr. James Jeter, Ennis, Secretary.

Fifteenth, Northeast, District Society, Daingerfield, Fall, 1948. Dr. W. S. Terry, Jefferson, President; Dr. James Harris, Marshall, Secretary.

CLINICS

Dallas Southern Clinical Society, Dallas, March 15-18, 1948. Miss Thelma J. Webb, Medical Arts Bldg., Dallas 1, Executive Secretary.

International Postgraduate Medical Assembly of Southwest Texas, San Antonio, January 27-29, 1948. Dr. W. W. Bondurant, Jr., 711 E. Houston St., San Antonio, President.

Post Graduate Medical Assembly of South Texas, Houston, December 1-3, 1947. Secretary, 229 Medical Arts Bldg., Houston.

TEXAS PEDIATRIC SOCIETY

The Texas Pediatric Society held a fall clinical meeting October 17-18 at the Rice Hotel, Houston, with Drs. Julian Boyd, Department of Pediatrics, University of Iowa College of Medicine; Douglas Buchanan, Department of Pediatrics, University of Chicago College of Medicine; Paul Bucy, Department of Neurosurgery, University of Illinois College of Medicine; and Russell Blattner, Department of Pediatrics, Baylor University College of Medicine, as guest speakers.

The scientific program was as follows:

Surgical Treatment of Abnormal Involuntary Movements—Dr. Bucy.

Chronic Emotional Fatigue in Children As a Cause of Symptoms —Dr. Boyd.

Degeneration of the Central Nervous System—Dr. Buchanan.

Treatment of Congenital Malformations of the Spine and Spinal Cord—Dr. Bucy.

Management of Severe Infections—Dr. Blattner.

Significance of Head Size in Pediatric Practice—Dr. Boyd.

Inflammatory Diseases of the Nervous System—Dr. Buchanan.

Problem of Dental Caries—Dr. Boyd.

Acute Intracranial Vascular Accidents in Children—Dr. Buchanan.

Diagnosis and Treatment of Intracranial Tumors in Children—Dr. Bucy.

Officers elected include Drs. C. B. Alexander, San Antonio, president; John Glen, Houston, president-elect; John E. Ashby, Dallas, secretary; William H. Bradford, Dallas, treasurer; Byron York, Houston, councilor for District 1. A called business meeting will be held in Dallas in December during the meeting of the American Academy of Pediatrics.

A banquet and floor show was given the evening of October 17, at which time the four guest speakers were presented with engraved fountain pens. Drs. George W. Salmon, chairman; Eleanor Blish, Raymond Cohen, Jack Hild, J. K. Glen, Walter Qualtrough, and A. J. Scull served as the arrangements committee.

BAYLOR UNIVERSITY CARDIOLOGY COURSE

Baylor University College of Medicine, Houston, through its Department of Medicine, will offer a refresher course in cardiology January 5-8, Dean W. H. Moursund announces. Guest speakers will be Dr. Tinsley R. Harrison, professor of medicine, Southwestern Medical College, Dallas; Dr. K. L. Katz, experimental cardiologist, Michael Reese Hospital, Chicago; and Dr. George Herrmann, professor of medicine, University of Texas School of Medicine, Galveston. In addition, members of the Baylor faculty will participate. Lectures will be held in the Baylor University auditorium, while ward rounds and clinical conferences will be held in Hermann and Jefferson Davis Hospitals. Tuition for the course will be $25.

Among the topics to be considered are classification and diagnosis of heart disease, rheumatic heart disease, electrocardiography, bacterial endocarditis, congestive heart failure, congenital heart disease, psychiatric aspects of heart disease, heart disease in metabolic and thyroid disturbances and in anemias, syphilitic aortitis, dissecting aneurysms, coronary artery disease, cardiac neurosis, and myocardial disease.

UNIVERSITY OF TEXAS PHYSICAL MEDICINE COURSE

A postgraduate course in physical medicine has been announced by the University of Texas for March 1-5, 1948, at the Medical Branch, Galveston. The course is designed for the general practitioner and the specialist interested in the more effective use of physical medicine. It will emphasize the practical, clinical aspects of the subject, and a number of live demonstrations and motion pictures will be given in addition to the didactic presentations.

Among the authorities who will participate in the program are Drs. Robert L. Bennett, Emory University and Georgia Warm Springs Foundation; Donald A. Covalt, New York University; Frederick A. Jostes, Washington University; Frederick T. Jung, American Medical Association; Worley Kendell, University of Illinois; A. B. C. Knudson, Veterans Administration, Washington; Richard Kovacs, New York Polyclinic Medical School; Frank Krusen, Mayo Clinic; John Kuitert, Fitzsimons General Hospital; Stafford Osborne, Northwestern University; and Arthur White, Percy Jones General Hospital. Members of the University of Texas staff and other Texans will assist.

A general fee of $25 will be charged, with an additional $2 fee for those who desire certification of attendance. The course is open to all physicians and qualified physical and occupational therapy technicians. Additional information is available from Dr. Truman Blocker, Director of Postgraduate Training Courses, or Dr. W. A. Selle, Director of Postgraduate Course in Physical Medicine, University of Texas Medical Branch, Galveston.

SOUTHWESTERN MEDICAL ASSOCIATION

A postgraduate seminar type of annual meeting was held by the Southwestern Medical Association in Phoenix, Ariz., November 6-8, with 374 registered. The speakers included Drs. Bernard J. Alpers, professor of neurology, Jefferson Medical College, Philadelphia; H. L. Bockus, professor of gastroenterology, Graduate School of Medicine, University of Pennsylvania, Philadelphia, and president of the

American Gastroenterological Association; Emil Bogen, diseases of the chest, Olive View Sanatorium, Los Angeles; Ignacio Chavez, professor of medicine, University of Mexico, Mexico, D. F.; L. K. Ferguson, associate professor of surgery, Graduate School of Medicine, University of Pennsylvania, Philadelphia; Edmund B. Spaeth, professor of ophthalmology, Graduate School of Medicine, University of Pennsylvania, Philadelphia; and Max M. Strumia, associate professor of pathology, Graduate School of Medicine, University of Pennsylvania, Philadelphia.

The complete scientific program was as follows:

November 6

Streptomycin Treatment for Tuberculosis, Its Indications and Limitations—Dr. Bogen.
Diagnosis and Management of Pancreatic Lesions—Dr. Bockus.
Surgical Management of Pancreatic Lesions—Dr. Ferguson.
Luncheon:
Rationale of Rest in Tuberculosis—Dr. Bogen.
Some Important Aspects in Hypertension and Hypertensive Heart Disease—Dr. Chavez.
Diagnosis and Treatment of Leukemias—Dr. Strumia.
Present Status of Vagotomy—Dr. Bockus.
Difficulties in Diagnosis and Treatment of Appendicitis—Dr. Ferguson.
Exophthalmos—Dr. Spaeth.
Sciatica Problem—Dr. Alpers.

November 7

Problem of Whole Blood Preservation and Transfusion—Dr. Strumia.
Interrelationship of Cardiac and Gastro-Intestinal Symptoms—Dr. Bockus.
Postoperative Care of Surgical Patients—Dr. Ferguson.
Use of Ouabaine and Digitalis in Treatment of Heart Failure—Dr. Chavez.
Luncheon:
Surgical Lesions in Office Practice—Dr. Ferguson.
Practical Aspects of Protein Feeding—Dr. Strumia.
Differential Diagnosis and Treatment of Vertigo—Dr. Alpers.
Recognition of Colonic Malignancy and Its Differential Diagnosis—Dr. Bockus.
Surgery of Large Intestinal Lesions—Dr. Ferguson.
Sequelae to Infectious Hepatitis—Dr. Strumia.

November 8

Reactions to Intravenous Fluid Administration—Dr. Strumia.
Diagnosis and Treatment of Cerebral Aneurysm—Dr. Alpers.
New Angiocardiography by Means of Direct Intracardiac Injection.—Dr. Chavez.
Value in Prognosis of Fundus Oculi—Dr. Spaeth.

November 6-8

Seminar in Ophthalmology: Refraction Clinic, Recent Advances in Cataract Surgery, Eye Muscle Clinic, Surgery of Eyelids, Retinal Separation Surgery,—Dr. Spaeth.

Officers elected to serve during 1948 are as follows: Drs. J. M. Greer, Phoenix, Ariz., president; Ralph W. Mendelson, Albuquerque, N. Mex., first vice-president; E. M. Hayden, Tucson, Ariz., second vice-president; and Wickliffe R. Curtis, El Paso, secretary-treasurer. El Paso was chosen for the 1948 meeting, which will be held in November.

TEXAS ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS

The eighteenth annual meeting of the Texas Association of Obstetricians and Gynecologists was held in Fort Worth, November 21-22, with Dr. Nicholson J. Eastman, professor of obstetrics, Johns Hopkins Medical School, Baltimore, and Dr. William T. Carlisle, Chicago gynecologist, as special guests. The scientific program was as follows:

November 21

Some Comments on Psychiatric Phases of Obstetric and Gynecologic Patients.—Dr. W. F. Ossenfort, Fort Worth.
Atresia of Esophagus, Tracheo-Esophageal Fistula: Report of Case—Dr. Joe White, Fort Worth.
Clinical Pathological Conference—Dr. May Owen and Dr. John J. Andujar, Fort Worth.
Pregnant Cardiac Patient—Dr. DeWitt Neighbors, Fort Worth.
Award Paper, Resident in Obstetrics and Gynecology, Parkland Hospital—Dr. Raymond J. Jennett, Dallas.
Vaginitis Emphysematosa—Dr. Herman Gardner, Houston.
Discussion of Present Concept of Stress Incontinence and Its Treatment—Howard O. Smith, Marlin.
Choice of Surgical Procedure for Correction of Vaginal Lesions—Dr. William T. Carlisle, Chicago.
J. F. Y. Paine Address: Compound Presentations—Dr. Nicholson J. Eastman, Baltimore.

November 22

Fetal and Maternal Nutrition in Pregnancy—Dr. William F. Guerriero, Dallas.
Place of Cytologic Method in Detection of Cervical Carcinoma—Dr. W. W. Brown, Dallas.
C. R. Hannah Lecture: Management of Pregnancy in Diabetes—Dr. Robert Johnston, Houston.
Management of Ovarian Tumors—Dr. William T. Carlisle, Chicago.
Current Research and Trends in Obstetrics at Johns Hopkins Hospital—Dr. Nicholson J. Eastman, Baltimore.

A cocktail party with Fort Worth members as hosts, a dinner, and a business session rounded out the program. In the absence of the president, Dr. J. E. Kanatser, Wichita Falls, the vice-president, Dr. Charles A. Smith, Texarkana, presided over the business meeting. It was decided to hold the 1948 meeting in Houston, probably in October, and the following officers were elected: Drs. Warren E. Massey, Dallas, president; Julius McIver, Dallas, president-elect; Arthur Farris, Houston, vice-president; George Adam, Houston, secretary-treasurer; and H. O. Smith, Marlin, and J. E. Kanatser, Wichita Falls, members of the executive council.

LIBRARY NOTES

PACKAGE SERVICE

The package library consists of collections of reprints and other periodical material on various subjects, prepared for lending to members of the Association. Requests for packages should be addressed "Library, State Medical Association of Texas, 1404 W. El Paso Street, Fort Worth 3, Texas." Twenty-five cents in stamps should be enclosed with the request to cover postage and part of the expense of collecting the material. Packages are allowed to remain in the hands of the borrower for 14 days.

ACCESSIONS

The following additions were made to the Library in November:

Reprints received, 1,320.

Journals received, 224.

New York, William-Frederick Press—Delano: Health and Rehabiltation through Chest Training.

New York, G. P. Putnam's Sons—Chayer: Nursing in Modern Society.

Chicago, Medical Center Foundation and Fund—Cook: Ulcer, The Primary Cause of Gastric and Duodenal Ulcer.

Philadelphia, Lea & Febiger—Goldberger: Unipolar Lead Electrocardiography; Burch and Reaser: A Primer of Cardiology; Ballenger and Ballenger: Diseases of the Nose, Throat and Ear, 9th edition; Lewin: The Foot and Ankle, 3rd edition.

Springfield, Ill., Charles C. Thomas—Karnaky: Practical Office Gynecology.

SUMMARY OF SERVICE

Local Users, 88.	Borrowers by mail, 50.
Items consulted, 256.	Packages mailed, 60.
Items taken out, 590.	Items mailed, 604.

Total number of articles consulted and loaned, 1,450.

MOTION PICTURE FILM LIBRARY

Motion picture films on medical subjects, 16 mm., both silent and sound, some in color, and suitable for either medical or lay audiences, are available for loan to county medical societies, hospital staffs, or individual physicians, on request. Borrowers will be required to pay only the cost of shipment of the films, by express, with insurance, and for any damage to films while in the hands of the borrower.

Requests for films should be addressed to "Motion Picture Film Library, State Medical Association of Texas, 1404 West El Paso Street, Fort Worth 3, Texas." A list of available films, with descriptions, will be furnished on request.

The following motion picture films were loaned by the Film Library of the State Medical Association of Texas during November:

Analgesia, Caudal (Available through the cour-

tesy of Becton, Dickinson & Company, Rutherford, N. J.—Dr. C. D. Gipson, Three Rivers.

Anemia, Erythroblastic (Available through the courtesy of Mead Johnson & Company, Evansville, Ind.)—Lamar College, Beaumont.

Anemias (Available through the courtesy of Lederle Laboratories, Inc., New York)—Brooks-Duval-Jim Wells Counties Medical Society, Alice.

Anesthesia, Regional (Available through the courtesy of Winthrop Chemical Company, New York)—Ragland Clinic-Hospital, Gilmer.

A New Horizon (Available through the courtesy of National Foundation for Infantile Paralysis, New York)—Scott & White Hospital, Temple.

Antitoxins, Globulin Modified (Available through the courtesy of Lederle Laboratories, Inc., New York)—Harris College of Nursing, Fort Worth.

Cesarean Section, Low Cervical (Available through the courtesy of Mead Johnson & Company, Evansville, Ind.)—Dr. C. D. Gipson, Three Rivers.

Chest Diseases, Surgery (Available through the courtesy of British Information Services, Houston)—Dr. Burgess Sealy, Fort Worth.

Cholecystectomy (Available through the courtesy of Mead Johnson & Company, Evansville, Ind.)—Drs. Mathews, Galt, Taylor, and Tubb, Dallas.

Diphtheria and Croup (Available through the courtesy of Lederle Laboratories, Inc., New York)—City Health Department, Fort Worth.

Encephalomyelitis (Available through the courtesy of Lederle Laboratories, Inc., New York)—Harris College of Nursing, Fort Worth.

Eyes for Tomorrow (Available through the courtesy of the Hurst Eye, Ear, Nose and Throat Clinic, Longview)—Dr. C. D. Gipson, Three Rivers.

Eyes, Your Children's (Available through the courtesy of British Information Services, Houston)—Grade School, Lorenzo.

Forty Billion Enemies (Available through the courtesy of Westinghouse Electric and Manufacturing Company, Mansfield, Ohio)—Thursday Club, Dublin.

From Moo to You (Available through the courtesy of the Borden Company, New York)—Galveston County Medical Auxiliary, Galveston.

Gastroscopy, Role of, in Gastric Pathology (Available through the courtesy of Harrower Laboratory, Inc., Glendale, Calif.)—Dr. J. W. Lanius, Dallas, and Dr. Marion R. Lawler, Mercedes.

Goiter Surgery (Available through the courtesy of Mead Johnson & Company, Evansville, Ind.)—Dr. J. W. Lanius, Dallas.

Golden Glory (Available through the courtesy of Standard Brands, Inc., Dallas)—Grade School, Lorenzo.

Goodbye, Mr. Germ (Available through the courtesy of Texas Tuberculosis Association, Austin)—Grade School, Lorenzo, and Galveston Medical Auxiliary, Galveston.

Hematology, Animated (Available through the courtesy of Armour Laboratories, Chicago)—Lamar College, Beaumont.

Human Fertility (Available through the courtesy of Ortho Products, Inc., Linden, N. J.)—Dr. A. J. Bohman, Cuero.

Immunization Against Infectious Diseases (Available through the courtesy of Lederle Laboratories, Inc., New York)—Health Museum, Dallas, and Drs. Mathews, Galt, Taylor, and Tubb, Dallas.

Injuries, Prevention and Immediate Care of Athletic Type (Available through the courtesy of Becton Dickinson & Company, Rutherford, N. J.)—Drs. Mathews, Galt, Taylor, and Tubb, Dallas, and Health Museum, Dallas.

Lease on Life (Available through the courtesy of the U. S. Public Health Service, Washington)—Kerr-Kendall-Gillespie-Bandera Counties Medical Auxiliary, Kerrville.

Malaria (Purchased by the Library, State Medical Association of Texas)—Health Department, Fort Worth.

Mastoid Surgery (Available through the courtesy of Dr. Louis Daily, Houston)—Dr. J. W. Lanius, Dallas.

Nutrition in Wound Healing (Available through the courtesy of California Fruit Growers' Exchange, Los Angeles)—Dr. Marion R. Lawler, Mercedes.

Plain Facts (Available through the courtesy of the American Social Hygiene Association, New York)—Dr. C. D. Gipson, Three Rivers.

Roentgen Pelvimetry (Available through the courtesy of Mead Johnson & Company, Evansville, Ind.)—Ragland Clinic-Hospital, Gilmer.

Sand in the Gears (Available through the courtesy of the Texas Tuberculosis Association, Austin)—Scott & White Clinic, Temple.

Stitch in Time (Available through the courtesy of the American Medical Association, Chicago)—Public Schools, Lorenzo, and J. T. Sloan, College Station.

Scarlet Fever (Available through the courtesy of Lederle Laboratories, Inc., New York)—Health Department, Fort Worth.

Splenectomy (Available through the courtesy of Davis and Geck, New York)—Anderson-Houston-Leon Counties Medical Society, Palestine, and Dr. J. O. S. Holt, Jr., Dallas.

Trichomonas Vaginalis (Available through the courtesy of Dr. Karl J. Karnaky, Houston)—Anderson-Houston-Leon Counties Medical Society, Palestine.

T. B., This is (Available through the courtesy of the Texas Tuberculosis Association, Austin)—Thursday Club, Dublin, and J. T. Sloan, College Station.

Traitor Within (Available through the courtesy of the American Cancer Society, Inc., New York)—Thursday Club, Dublin, and J. T. Sloan, College Station.

Uterosalpingography (Available through the courtesy of E. Fougera, Inc., New York)—Dr. A. J. Bohman, Cuero.

Uterosalpingography, Serial (Available through the courtesy of E. Fougera, Inc., New York)—Brooks-Duval-Jim Wells Counties Medical Society, Alice.

Urinary Antisepsis (Available through the courtesy of Mead Johnson & Company, Evansville, Ind.)—Dr. C. D. Gipson, Three Rivers.

When Bobby Goes to School (Available through the courtesy of Mead Johnson & Company, Evansville, Ind.)—Kerr-Kendall-Gillespie-Bandera Counties Medical Auxiliary, Kerrville.

LIBRARY NEEDS

The journals listed are needed by the Library of the State Medical Association to complete volumes for binding. Any of these numbers will be acceptable either as a gift or for purchase. It is preferable that the Library, 1404 West El Paso Street, Fort Worth 3, be notified regarding items available, and the prices of such items, if any, before shipment is made.

Journals needed by the Library of the State Medical Association are as follows:

Texas State Journal of Medicine, Vol. 43, No. 5 (Oct.) 1947.

American Journal of Obstetrics and Gynecology, Vol. 34, No. 4 (Oct.) 1937.

Proceedings of the Royal Society of Medicine, Vol. 30, No. 5 (March) 1937.

BOOK REVIEWS

[1]**Standard Methods** of the Division of Laboratories of the New York State Department of Health. By Augustus B. Wadsworth, M. D. With a foreword by Gilbert Dalldorf, M. D. Cloth, 990 pages. Third edition. Price, $10. Baltimore, Williams and Wilkins Company, 1947.

The third edition of this classic for public health laboratories marks an epoch in the New York State Department of Health. It is the last work of Dr. Augustus B. Wadsworth on the termination of thirty-one years of service as director of laboratories. Perhaps the largest addition has been the complete revision of the section on serodiagnosis of syphilis, necessitated by the advent of cardiolipin. The section on that antigen is probably the most complete in print at this time, and thoroughly reviews the manufacture and use of cardiolipin. There is not much information, however, on the evaluation of cardiolipin in the laboratory diagnosis of syphilis. The completely new chapter on biologic assay is informative and there are extensive revisions in the portions on biochemistry and biophysics.

The inclusion of fifteen pages on elementary blood examination and urinology appears to be a sop to those misguided advocates of socialized pathology who would have us believe that the definition of public health includes responsibility for the treatment and care of each patient. "Standard Methods" fortunately suggests that a regular textbook of clinical pathology be consulted for this type of work.

The book is simply and specifically written, with brilliant editing, and provides a standard addition to all medical laboratories.

[2]**Roentgen Interpretation.** By George W. Holmes, M. D., Board of Consultation, Massachusetts General Hospital and Clinical Professor of Roentgenology, Emeritus, Harvard Medical School, and Laurence L. Robbins, M. D., Radiologist-in-Chief to the Massachusetts General Hospital and Associate in Radiology, Harvard Medical School. Seventh edition, thoroughly revised, with 266 illustrations. Cloth, 398 pages. Price, $7. Philadelphia, Lea & Febiger, 1947.

The seventh edition of this book shows only minor revisions and additions from recent previous editions. The new co-author with Dr. Holmes, replacing Dr. Howard E. Ruggles, is Dr. Laurence L. Robbins.

It is a credit to the authors that this small book scanning the entire field of roentgen interpretation remains a standard reference. Specialists in radiology will look to more exhaustive reference books, but this volume continues to serve a real need as a simply written, compact volume for students and practitioners.

The illustrations in this text are not greatly changed from those in previous editions. Some of them are now negatives, and the authors state that they hope in future editions to convert all of them into negatives. Adequate references, including the recent literature, are at the end of each chapter.

[3]**Techniques and Procedures of Anesthesia.** By John Adriani, M. D., Director, Department of Anesthesia, Charity Hospital of Louisiana; Clinical Assistant Professor of Surgery (Anesthesiology), Louisiana State University. Fabricoid, 404 pages. Price, $6. Springfield, Ill. Charles C. Thomas, Publisher, 1947.

This, the third book on anesthesia by John Adriani, follows the same excellent outline form of his previous publications. By arranging the subject matter in outline form, an orderly presentation is achieved, and, at the same time, the reader is enabled to grasp the matter more easily. It would seem to be a series of answers to all possible questions. Such a book is a valuable adjunct to training courses in the specialty as well as a ready reference for all practitioners, as all types of anesthetic procedures are presented with the reasons and indications for the selection in specific cases.

The subject matter is complete and detailed in all descriptions of procedures and techniques, so that the reader unfamiliar with the subject may obtain a clear, concise, and orderly routine for accomplishing each given procedure.

An unusually complete index is added, as well as an appendix containing tables for choosing dosage and suitable anesthetic agents. This is a complete textbook which will be of great value to anyone interested in anesthesia, and especially to students and teachers.

[4]**Office Treatment of the Eye.** By Elias Selinger, M. D., Attending Ophthalmologist, Mount Sinai, Cook County, and Michael Reese Hospitals. Cloth, 542 pages. Price, $7.75. Chicago, The Year Book Publishers, 1947.

The author felt the need of resident physicians and postgraduate students for a manual describing ordinary office procedures and routine ophthalmologic treatment in detail and has written this book, primarily concerned with office and home procedures but describing technical procedures in considerable detail. Each condition is covered in reference to etiology, clinical picture, and treatment. The book is excellent for beginners in ophthalmology and for those practicing long enough to have forgotten certain procedures and who are interested in keeping abreast of the newer procedures in ophthalmology.

[1]Reviewed by John J. Andujar, M. D., Fort Worth.
[2]Reviewed by Erle D. Sellers, M. D., Abilene.
[3]Reviewed by L. F. Schuhmacher, Jr., M. D., Chief, Department of Anesthesiology, Hermann Hospital, Houston.
[4]Reviewed by J. W. Eschenbrenner, M. D., Fort Worth.

NEWS

Contributions to this department will be appreciated. News should be of general medical interest, such as public health activities, new hospitals, personal items of more than local value, etc. News for a particular number of the JOURNAL should be in the hands of the Editor not later than the fifteenth of the preceding month.

The International College of Surgeons, United States Chapter, has announced that among the 810 surgeons inducted into the college at its Chicago meeting October 3 were the following Texans: *fellows*—Jo C. Alexander, Dallas; James P. Bridges, Abilene; Fred B. Cooper, San Antonio; Albert P. D'Errico, Dallas; Theodore R. Hannon, Houston; James W. Nixon, San Antonio; Edwin Wallace Smith, Plainview; J. C. Terrell, Stephenville; and Samuel D. Weaver, Dallas; *associates*—Ernest F. Cadenhead, Brownwood; Lewis N. Helfer, San Antonio; Cedric Priday, Corpus Christi; William L. Rhodes, Corpus Christi; Raoul S. Rosenthal, Dallas; Leopold Villareal, El Paso; and Joseph Wolfe, Dallas; *affiliate*—Evri B. Mendel, Dallas.

A Diabetic Research Foundation and Training Camp has been envisioned by a group of Gainesville citizens, and steps have already been taken toward organization, according to the Gainesville *Register*. A committee headed by Mayor Robert Brown has been instructed to secure information pertinent to organizing a foundation which can receive and administer funds. The committee was set up at a community meeting held early in November to consider the possibility of establishing a center at Gainesville for diabetic research and an outdoor training and conditioning camp for children suffering from diabetes. It is anticipated that the foundation will be named for Dr. J. Shirley Sweeney, former Gainesville resident who recently returned there after prac-

ticing for many years in Dallas. Dr. Sweeney, who is well known for his research in and treatment of diabetes, has expressed a willingness to devote his time and interest to the project without expectation of pecuniary gain.

Southwestern Medical College, Dallas, in conjunction with the American College of Physicians offered a postgraduate course in cardiovascular diseases November 3-8, reports the Park Cities *News*.

A gift of $2,000 to start a collection of psychiatric literature has been received by the Southwestern Medical Foundation in memory of Laurence S. Kahn, late president of E. M. Kahn & Company, Dallas, according to the Dallas *News*. The gift was presented by Louie N. Bromberg, president of the E. M. Kahn & Company, in behalf of the company. Books to be purchased with the fund will be placed in a special memorial alcove of the Southwestern Medical College library. The gift follows a recent grant of $20,000 from the United States Public Health Service for expansion of the college's psychiatry training program.

The University of Texas Medical Branch, Galveston, has recently received a grant from Smith, Kline & French Laboratories for research directed by Dr. Eric Ogden, professor of physiology; $3,000 from the John and Mary R. Markle Foundation for the support of malaria research under Dr. R. H. Rigdon, professor of pathology; and $2,500 from Lederle Laboratories for studies on rickettsial diseases by Dr. Ludwik Anigstein, professor of preventive medicine.

The University of Texas is the first institution to become a member of the Army Medical Department's postwar affiliation program, according to announcement from the Surgeon General's office. The professional members of the new hospital unit will be drawn from the faculty and staff of the University and will be trained in Army methods and procedures so that in the event of mobilization the unit will be prepared to take the field with a minimum of delay. The University sponsored a general hospital unit during World War II, one of seventy-three affiliated units which served with the Army Medical Department during the war, and has agreed to sponsor a 1,000 bed general hospital in the postwar program.

Dr. Philip Cavelti, of the University of Bern and the Hooper Foundation for Medical Research, University of California Medical Center, San Francisco, lectured on rheumatic conditions in relation to vascular disease on October 20 at the University of Texas Medical Branch.

Four members of the University's Department of Neuropsychiatry, Drs. Titus Harris, Jack Ewalt, Hamilton Ford, and Martin Towler, have been appointed consultants for Brooke General Hospital, Fort Sam Houston, reports the Galveston *Tribune*.

Dr. A. Packchanian, professor of biology and director of the Laboratory of Microbiology, read a paper on leishmaniasis at the second annual Mexican Congress of Medicine in Mexico City, November 9-15, according to the Galveston *Tribune*.

PERSONALS

Dr. G. V. Brindley, Temple, has been elected to serve a three-year term on the board of governors of the American College of Surgeons, reports the Temple *Telegram*.

Dr. James S. Scarborough, formerly superintendent of the Rusk State Hospital, on November 15 became chief physician of the eleemosynary services of the state of Texas, according to the Port Arthur *News*.

Dr. Ray K. Daily, Houston, has been elected vice-president of the American Academy of Ophthalmology and Otolaryngology, the first woman to hold that position, informs the Houston *Post*.

Dr. Ben L. Boynton, formerly of San Angelo, is area chief of the physical medicine division of the Veterans Administration with headquarters in Dallas, states the San Angelo *Standard-Times*.

Dr. Nina Fay Calhoun, Dallas, has been honored by the Seventh District of Altrusa International, which recently voted to establish a fund in her name to provide for the education of a young Korean woman in the nursing profession at an American hospital, according to the Dallas *Times-Herald*.

Dr. John L. Matthews, San Antonio, will present a paper at the Third Pan American Congress of Ophthalmology in Havana, January 4-10.

Dr. J. L. Jennings, Roxton, has received a certificate from the University of Louisville in appreciation of his more than fifty years of service since his graduation from that institution, reports the Paris *News*.

Dr. and Mrs. Livingston Barnes, Hubbard, held an open house October 10 to celebrate their fifty-fourth wedding anniversary, states the Hubbard *News*.

Mrs. Louis W. Breck, El Paso, wife of an El Paso physician, has been named first lady of El Paso by the City Council of Beta Sigma Phi Sorority, following her nomination by business men of the city on a basis of leadership, character, and outstanding contributions to civic advancement, reports the El Paso *Herald-Post*.

BIRTHS

To *Dr. and Mrs. June Yates*, Corpus Christi, a girl, October 8.

To *Dr. and Mrs. W. P. Higgins, Jr.*, Fort Worth, a girl, Ann, October 26.

To *Dr. and Mrs. Paul Levin*, Dallas, a girl, Ellen Ann, September 22.

To *Dr. and Mrs. Henry W. Poetter*, Galveston, a girl, Joan Louise, November 10.

SOCIETY NEWS

Bell County Society

October 1, 1947

(Reported by J. G. Rodarte, Secretary)

Surgical Collapse in Pulmonary Tuberculosis—Francis J. Phillips, Temple.
Discussion—G. V. Brindley, Jr., Temple.
Torula Meningitis—G. J. Ehni and W. N. Powell, Temple.
Discussion—W. F. Bonner, Temple.

Fifty-two members and fourteen guests were present for the October 1 meeting of Bell County Medical Society in Temple.

G. D. Williams, the new director of the Bell County Health Unit, was introduced. He outlined his program for the year, and called attention to the mobile x-ray unit scheduled to be in Bell County soon. At his request, the society unanimously approved the x-ray program. A physician for the venereal disease clinic is to be obtained, and upon motion by Francis J. Phillips the society voted that its public health committee and Dr. Williams handle that matter.

G. V. Brindley read a letter from a member of the society requesting advice with regard to medical ethics. The member wished to correct a rumor that he makes no night calls or house calls. The society agreed that the member should be permitted to correct this misinformation through a small advertisement in the newspaper for two or three days.

Application for membership of James Arch Coleman, Jr., was accepted unanimously, and J. Melvin Boykin was accepted upon transfer from Harris County Medical Society.

Bowie County Society

October 17, 1947

Newer Methods in Gynecological Therapy—E. T. Ellison, University of Arkansas College of Medicine, Little Rock.

Bowie and Miller Counties Medical Societies met October 17 in Texarkana for a dinner meeting at which E. T. Ellison, professor of obstetrics and gynecology at the University of Arkansas College of Medicine, spoke.

Brazoria County Society

October 30, 1947

(Reported by A. O. McCary, Secretary)

Neuropsychiatry in General Practice—Titus H. Harris and Hamilton Ford, Galveston.

Members of the Brazoria County Medical Society, their wives, dentists of the county, and their wives met for dinner in Freeport on October 30. Titus H. Harris and Hamilton Ford, both of Galveston, presented a program on neuropsychiatry in general practice, which was followed by a general discussion.

Colorado-Fayette Counties Society

October 28, 1947

(Reported by C. I. Shult, Secretary)

Psychotherapy in Everyday Practice—Charles L. Bloss, Dallas.

Charles L. Bloss, Dallas, was guest speaker at a dinner meeting October 28 in Columbus of the Colorado-Fayette Counties Medical Society and Auxiliary. During the business session a proposed constitution and by-laws was presented by J. H. Wooten, Columbus. After discussion and some revision, the constitution and by-laws was adopted to become effective January 1.

Crane-Upton-Reagan Counties Society

November 13, 1947

(Reported by W. H. Cooper, Secretary)

A business meeting of Crane-Upton-Reagan Counties Medical Society was held in Rankin on November 13. The following officers were elected: S. F. Robinson, Crane, president; G. N. Irvine, Jr., McCamey, secretary-treasurer; J. C. Bredehoft, Rankin, delegate; John Wright, Jr., Texon, alternate. A cancer committee consisting of John Wright, Jr., Texon, and J. L. Cooper, McCamey, and a tuberculosis committee consisting of G. N. Irvine, Jr., McCamey; S. F. Robinson, Crane; and W. H. Cooper, McCamey, were named.

Dallas County Society

October 23, 1947

(Reported by W. W. Fowler, Secretary)

Recent Studies in Coronary Thrombosis (lantern slides)—George R. Herrmann, Professor of Medicine, University of Texas Medical Branch, Galveston.

Influence of Antibacterial Agents on Healing of the Bowel (lantern slides)—Edgar J. Poth, Professor of Surgery, University of Texas Medical Branch, Galveston.

An exchange program from Galveston and the University of Texas Medical Branch was presented for the Dallas County Medical Society meeting at the Dallas Health Museum on October 23. Eighty-six members heard the talks named above. Robert Barton introduced Dr. Herrmann, and Curtice Rosser introduced Dr. Poth.

Everett Fox expressed appreciation on behalf of the society for the invitation to meet at the Health Museum, and he urged members of the organization to familiarize themselves with the museum.

November 13, 1947

(Reported by W. W. Fowler, Secretary)

Brucellosis—M. Ruiz Castaneda, Professor of Medicine, University of Mexico, and Director of Typhus and Brucellosis Laboratories, Republic of Mexico, Mexico, D. F.

M. Ruiz Castaneda, Mexico, D. F., was speaker for a joint meeting of the Dallas County Medical Society and the Dallas Academy of Internal Medicine in Dallas on November 13. The speaker was introduced by Arthur Grollman.

Upon motion by Everett Fox, chairman of the public relations committee, the society approved a proposal of the Dallas Health Museum to conduct a question and answer column in a local newspaper with the cooperation of members of the Dallas County Medical and Dental Societies.

John G. Young, president, announced the Dallas County Hospital Council Award to be given for outstanding work in the field of community health.

Dr. Young also reported the death in a plane crash in Lima, Peru, of Lt. Col. Harold D. Parks, Lancaster, a member of the society.

Irvine Glen Jordan, Jr., was elected to membership upon application, and Ben L. Boynton upon transfer from the Tom Green-Eight County Medical Society.

Seventy-six members and guests were present.

Eastland-Callahan Counties Society

October 21, 1947

Diagnosis and Treatment of Typhus Fever—Sidney E. Stout, Fort Worth.

Diagnosis and Treatment of Breast Tumor—J. Mack Lawson, Fort Worth.

Following dinner in Eastland on October 21, members of the Eastland-Callahan Counties Medical Society heard the papers outlined above. The more than twenty-five members who were present elected new officers as follows: J. H. Caton, Eastland, president; E. E. Addy, Jr., Cisco, vice-president; M. L. Stubblefield, Baird, secretary-treasurer; and C. W. Harris, Ranger, censor.

El Paso County Society

September 23, 1947

(Reported by W. Compere Basom, Secretary)

A banquet in honor of B. E. Pickett, Sr., Carrizo Springs, President of the State Medical Association, was held in El Paso on September 23 by the El Paso County Medical Society. Dr. Pickett was the chief speaker, advocating the advancement of the political and economic phases of medicine. Cocktails provided by Ralph Homan and John E. Morrison were served prior to the banquet.

Falls County Society

October 13, 1947

Acute Rheumatic Fever—Howard C. Coggeshall, Dallas.

Falls County Medical Society, meeting October 13 in Marlin for dinner, heard Howard C. Coggeshall, Dallas, discuss acute rheumatic fever. He was introduced by T. G. Glass, program chairman. Four out-of-town guests in addition to Dr. Coggeshall were present.

Galveston County Society

October 16, 1947

Progress in Neurology—Hans Reese, University of Wisconsin, Madison.

Galveston County Medical Society held its first meeting of the year on October 16 in Galveston with Hans Reese, professor of neurology and psychiatry at the University of Wisconsin, as the guest speaker.

Grayson County Society

October 14, 1947

Aches and Pains—Henry Winans, Dallas.

A discussion of minor aches and pains, their interpretation and treatment was presented for sixteen members of Grayson County Medical Society in Denison on October 14 by Henry Winans, Dallas.

Application of B. T. Brown, Sherman, for membership was approved.

Announcement was made that the Grayson County Medical Service Plan for providing medical care to employees of Mrs. Tucker's Shortening Co. of Sherman had been discontinued by mutual agreement.

Gregg County Society

October 14, 1947

Back Injuries—Gene Caldwell, Shreveport, La.

Treatment of Skin Diseases—Percy Worley, Shreveport, La.

Two Shreveport, La., specialists spoke at a dinner meeting of the Gregg County Medical Society on October 14 at the Gregg County Airport. The program is outlined above.

Jefferson County Society

November 13, 1947

(Reported by E. Mittendorf, Executive Secretary)

Gastrectomy: Indications, Technique, and Possible Complications—Norman Duren, Beaumont.
Discussion—George Sladczyk, H. B. Eisenstadt, and L. C. Carter, Port Arthur, and Morris Wiess, L. T. Pruit, H. B. Williford, and D. M. English, Beaumont.

Forty-one members of Jefferson County Medical Society met in Port Arthur on November 10 for the scientific program mentioned above.

It was reported that one of the school systems of the county had begun a health program intended to furnish free mass immunizations to its students and that a member of the medical society expected meeting of the year on October 16 in Galveston with Hans Reese, professor of neurology and psychiatry at the University of Wisconsin, as the guest speaker. to contribute his services to this program. After much discussion, the secretary was instructed to inform the physician that the society does not approve of such programs except for the indigent and that it is not deemed good practice for any physician to contribute his services except to indigents when practicing physicians are available to furnish immunizations individually.

Application of Laurine D. Jack for membership was approved.

A letter from the Texas Graduate Nurses Association, District 12, announcing an increase in rates for private duty nurses, effective November 10, was read.

In line with a written request from the Beaumont Tuberculosis Association, the society voted to contribute $15 each to the Beaumont and Port Arthur Tuberculosis Associations for the purchase of Christmal Seal Bonds.

Lubbock-Crosby Counties Society

October 1, 1947

(Reported by O. R. Hand, Secretary)

Epilepsy and Cerebral Palsy (lantern slides)—Temple Fay, Philadelphia.

A special meeting of the Lubbock-Crosby Counties Medical Society was held in Lubbock on October 1 with about forty members and guests present. Temple Fay, Philadelphia, was the guest speaker.

S. C. Arnett discussed the setting up of a blood bank by the Red Cross. Byron A. Jenkins moved that the society sanction the effort of the Red Cross to establish a blood bank. The motion was seconded by Allen Stewart and carried unanimously. The president appointed Dr. Arnett, A. G. Barsh, and Clarence Mast as a committee to work with the Red Cross.

James T. Hall was unanimously elected to membership upon application.

November 4, 1947

(Reported by O. R. Hand, Secretary)

Some Medical Aspects in the Care of Veterans—Irving C. Eldridge, Veterans Administration.

Lubbock-Crosby Counties Medical Society met November 4 in Lubbock. Twenty-two members and two visitors heard a discussion of the medical care of veterans by a representative of the medical staff of the Veterans Administration.

Establishment of a blood bank by the Red Cross was considered again, and upon motion by O. W. English, seconded by M. H. Benson, the society unanimously voted its wholehearted endorsement of the Red Cross blood bank and its cooperation to the fullest extent.

There was discussion of the report that the school board desires to employ a school physician, but no action was taken.

S. C. Arnett was appointed to write a member of the Texas Technological College Staff who had requested a statement of policy concerning the use of college medical facilities by the faculty.

The president appointed J. H. Stiles, Olan Key, and Dr. H. Benson to the nominating committee.

At the request of the head of the local infantile paralysis society, a poliomyelitis committee consisting of Byron A. Jenkins and James W. Rollo was appointed.

Upon motion by O. R. Hand, seconded by Mina D. Watkins, it was unanimously voted to increase annual dues to $35, thus obviating the necessity for the annual fall assessment.

Ivan G. Mayfield was unanimously elected to membership upon application.

A letter from Holman Taylor, Fort Worth, secretary of the State Medical Association, concerning a visit of Jonathan Forman, Columbus, Ohio, to Lubbock in the interest of soil conservation was read. A committee composed of Dr. Arnett, R. C. Douglas, and William H. Gordon was appointed to contact Dr. Forman.

Palo Pinto-Parker Counties Society

October 14, 1947

Symposium on Diseases of the Thyroid—S. E. Stout, J. M. Lawson, W. B. Sealy, J. K. Norman, and G. R. Enloe, Fort Worth.

Twenty-one physicians were present at the meeting of the Palo Pinto-Parker Counties Medical Society in Mineral Wells on October 14 when five Fort Worth physicians conducted a symposium on diseases of the thyroid. The physicians and their wives were entertained at the home of Dr. and Mrs. J. C. Allensworth following the meeting.

Pecos-Jeff Davis-Presidio-Brewster Counties Society

November 2, 1947

(Reported by W. E. Lockhart, Secretary)

Newer Concepts of Surgical Diseases of the Thyroid—Carl A. Kunath, San Angelo.

Carl A. Kunath, San Angelo, was guest speaker for the Pecos-Jeff Davis-Presidio-Brewster Counties Medical Society on November 2 in Iraan. Five members and nine visitors were present.

Randall-Deaf Smith-Parmer-Castro-Oldham Counties Society

November 5, 1947

(Reported by Robert P. Jarrett, Secretary)

Pertussis—O. H. Loyd, Vega.

Randall-Deaf Smith-Parmer-Castro-Oldham Counties Medical Society met November 5 at the home of O. H. Loyd, Vega, to hear a discussion of pertussis by Dr. Loyd. E. D. Anderson, Friona, was elected to membership. Ten members and three visitors were served refreshments by Mrs. Loyd following the program.

Tarrant County Society

October 21, 1947

(Reported by W. P. Higgins, Jr., Secretary)

Dr. Frank Gray: Biographical Sketch—R. H. Needham, Fort Worth.
Differential Diagnosis in Groin Hernia—Irvan M. Ward, Fort Worth.
Discussion—Robert D. Bickel and William M. Crawford, Fort Worth.
Diagnosis and Office Management of Diabetes Mellitus—William R. Leon, Fort Worth.
Discussion—J. F. McVeigh and Shelton Barcus, Fort Worth.

Sixty-seven members and two visitors were present to hear the papers named above when Tarrant County Medical Society convened October 21 in Fort Worth. Sim Hulsey, chairman of the program committee, presided over the program.

O. P. Griffin, Fort Worth, was elected to membership upon application.

Announcement was made of the Southwest Regional Cancer Conference to be held in Fort Worth on November 20, and of the Thirteenth District Medical Society meeting to be held in Mineral Wells November 11, preceded by entertainment the evening of November 10.

November 4, 1947

(Reported by W. P. Higgins, Jr., Secretary)

Infantile Eczema:
Pediatrician's Point of View—James N. Walker, Fort Worth.
Discussion—Sim Hulsey, E. G. Schwarz, C. S. E. Touzel, and C. O. Terrell, Fort Worth.
Dermatologist's Point of View—William E. Flood, Fort Worth.
Discussion—T. C. Terrell, Hobart Deaton, Robert Mitchell, and William Knapp, Fort Worth.
Avoiding Errors in Chest Plates—John Potts, Fort Worth.

The program outlined was presented for Tarrant County Medical Society when it met in Fort Worth on November 4 with sixty-seven members and two visitors present. Noel R. Bailey, Fort Worth, explained the plan of the Junior Chamber of Commerce to convert the Marine Hospital to a boarding school for spastic children, providing for charity, part pay, and full pay patients. Upon his motion, seconded by C. S. E. Touzel, the society approved the plan.

Taylor-Jones Counties Society

October 13, 1947

Surgical Care in Traumatic Cases with Tissue Loss—Knox Pittard, II, Anson.
Discussion—George D. Thurman, Abilene.

Taylor-Jones Counties Medical Society, meeting October 13 in Abilene, unanimously approved issuance of $1,500,000 in bonds, which was to be voted on by Abilenians October 21, and discussed the need for a better ordinance to govern food handlers in the city. Suggestions were that chest roentgen examinations, blood tests, and other appropriate tests be required of food handlers and be made by the city health officers. The scientific paper named was presented.

November 12, 1947

Taylor-Jones Counties Medical Society, meeting November 12 in Abilene, elected the following officers: Erle Sellers, president; Scott Hollis, vice-president; L. J. Webster, reelected secretary; C. E. Adams, delegate; R. W. Varner, alternate. All the officers live in Abilene.

A memorial resolution on the late Dr. Dallas Southard, Stamford, was adopted.

Tom Green-Eight County Society

October 6, 1947

(Reported by H. M. Anderson, Secretary)

A business session was held in San Angelo on October 6 by Tom Green-Eight County Medical Society. Forty-four members and guests were present.

W. H. Brauns, Gus F. Eckhardt, and J. R. Harris, Jr., were elected to membership upon application.

Upon motion by Perry J. C. Byars, seconded by H. M. Williams, the society approved a list of professional headings for physicians in the yellow pages of the telephone directory and voted to limit each physician to two listings in the directory.

H. K. Brask introduced the question of getting physicians to assist in the examinations of applicants for the National Guard. Upon motion by W. D. Anderson, the society voted to suggest that the National Guard send each applicant to the physician of his choice.

R. E. Windham, Grady Mitchell, F. T. McIntire, and J. A. Bunyard were appointed to the nominating committee.

Following the meeting, the physicians joined the local pharmacists, dentists, and veterinarians for dinner.

Wichita County Society

November, 1947

New officers were elected by Wichita County Medical Society early in November. The following were named: R. L. Daily, president; K. W. McFatridge, vice-president; John R. Mast, secretary-treasurer; and J. R. Reagan, censor. All are residents of Wichita Falls.

Williamson County Society

October 21, 1947

Amebiasis As the Cause of Vague Digestive Disturbances—C. M. Darnall, Austin.
Treatment of Urinary Tract Infections—A. A. Terry, Austin.

Two Austin physicians gave papers before the Williamson County Medical Society at its first meeting of the year October 21 in Taylor. Twenty were present for the program, which followed dinner.

Second District Society

October 30, 1947

Ileus—Carl Moyer, Southwestern Medical College, Dallas.
Some Aspects of Coronary Disease—H. E. Heyer, Southwestern Medical College, Dallas.
Cervical Anaplasia—A. W. Diddle, Southwestern Medical College, Dallas.
Therapeutic Malaria—H. Glenn Walker, Midland.
Modern Conception of Sterility—George E. Peacock, Big Spring.
Proctoscopy Technique and Indications—Joseph E. Brackley, Big Spring.
Diagnostic Points in Cardiac Disease—Edward V. Swift, Big Spring.
Indications for Urethroscopy Cystoscopy—C. T. Uthoff, Midland.
Complications of Parenteral Fluid Therapy—Carl Moyer, Dallas.
Simplified Obstetric Care (motion picture)—William F. Mengert, Southwestern Medical College, Dallas.

The Second District Medical Society met October 30 in Big Spring for the scientific program outlined above. In addition, the society and the District Auxiliary, which met at the same time, had a cocktail party and banquet in the evening, with Dr. P. D. O'Brien, pastor of the First Baptist Church, and Mr. Joe Pickle, of the Big Spring *Daily Herald*, as the chief speakers. Arnold Marshall, accompanied by Helen Duley, gave several vocal selections.

The officers were re-elected as follows: R. B. G. Cowper, Big Spring, president; C. U. Callan, Rotan, vice-president; H. A. Briggs, Midland, secretary-treasurer. The society decided to meet annually, but the place and date of the next meeting were referred to the officers for decision. Approximately eighty were registered.

Third District Society

October 14-15, 1947

(Reported by Kenneth R. Flamm, Secretary)

October 14

Relapsing Fever—R. C. Douglas, Lubbock.
Discussion—Clay Dine, Amarillo.
Hyperparathyroidism—W. E. Scott, Amarillo.
Discussion—Doyce Clark, Lubbock.
Jaundice—E. E. Gambill, Mayo Clinic, Rochester, Minn.
Discussion—David Marclay, Amarillo.
Some Clinical Problems in General Practice—William A. Sodeman, Professor of Tropical Medicine and Preventive Medicine, Tulane University, New Orleans.
Discussion—G. K. Swartz, Plainview.
Luncheon and Round-Table Discussion—William H. Gordon, Lubbock, Presiding.
Diagnosis of Bronchogenic Carcinoma—Alton Ochsner, Professor of Surgery, Tulane University, New Orleans.
Discussion—O. W. English, Lubbock.
Differential Diagnosis and Treatment of Common Types of Hepatitis—William A. Sodeman, New Orleans.
Discussion—S. C. Arnett, Lubbock.
Pelvic Pain—Conrad Collins, Professor of Gynecology, Tulane University, New Orleans.
Discussion—A. B. Goldston, Amarillo.
Peptic Ulcer—E. E. Gambill, Rochester, Minn.
Discussion—A. G. Barsh, Lubbock.
Banquet—Address: Mr. J. Louis Neff, Executive Director, Texas Division of the American Cancer Society, Houston.

October 15

Analgesia and Anesthesia in Labor—J. H. Robberson, Amarillo.
Discussion—O. R. Hand, Lubbock.
Venous Thrombosis—Alton Ochsner, New Orleans.
Discussion—J. T. Krueger, Lubbock.
Sterility—Raymond Mays, Obstetrical Department, Charity Hospital, Shreveport, La.
Discussion—Arthur Hansen, Borger.
Postabortal and Postpartal Sepsis—Conrad Collins, New Orleans.
Discussion—J. R. Harris, Lubbock.
Blood Transfusions—Henrie Mast, Lubbock.
Discussion—Ewell Hunt, Lubbock.
Low Back Pain—Elias Margo, Oklahoma City.
Discussion—John Conway, Clovis, N. Mex.

Members of the Third District Medical Society heard a series of scientific papers by guests from

out of the state and by Texas speakers when they met in Lubbock on October 14-15. A round-table luncheon and a banquet and entertainment were held October 14. The complete program is outlined above.

Fourth District Society

October 22, 1947

(Reported by J. C. Young, Secretary)

Invocation—Rev. T. Lynn Stewart, First Baptist Church, Coleman.
Address of Welcome—Dr. J. F. Gaines, Mayor of Coleman.
Ligation of Inferior Vena Cava and Left Common Iliac Vein; Report of Two Cases—Gus Eckhardt, San Angelo.
Discussion—Mac Woodward and F. M. Burke, Coleman.
Hyperactive Carotid Sinus Reflex Syndrome—Victor E. Schulze, San Angelo.
Fistula in Ano—Jack G. Kerr, Dallas.
Discussion—Gus Eckhardt, San Angelo.
Surprises Encountered in Roentgen Study of Thorax—Glenn D. Carlson, Dallas.
Discussion—Jerome H. Smith, San Angelo, and O. N. Mayo, Brownwood.
Luncheon: Extemporaneous talks by guest speakers in reply to questions.
Problem of Low Back Pain—Sim Driver, Dallas.
Discussion—James P. Anderson, Brady, and Glenn H. Ricks, Brady.
Rheumatic Fever—John G. Young, Dallas.
Discussion—R. R. Lovelady, Santa Anna.
Selection of a Urinary Antiseptic—Karl B. King, Dallas.
Discussion—Gordon A. Pilmer, San Angelo.
Pneumothorax in Treatment of Tuberculosis—H. C. Samuel, Sanatorium.
Retropubic Prostatectomy—Paul M. Wheelis, Brownwood.
Discussion—Henry L. Lobstein, Brownwood, and Ned Snyder, Jr., Brownwood.
Banquet: The Medical Profession vs. Public Opinion—B. E. Pickett, Sr., President, State Medical Association, Carrizo Springs.

Members of the Fourth District Medical Society and Auxiliary, meeting in Coleman on October 22, unanimously adopted a resolution pledging their support to a wholehearted participation in the program of the State Medical Association and Auxiliary and to giving financial assistance for that purpose.

The resolution was presented following the banquet address of B. E. Pickett, Sr., Carrizo Springs, President of the State Medical Association, which closed the program of the day, as noted above.

The society elected J. C. Young, Coleman, president; James P. Anderson, Brady, vice-preisdent; and Charles F. Bailey, Ballinger, secretary. It was voted to meet next at Ballinger. The fee for district membership was raised from 50 cents to $1 for the next year.

Eleventh District Medical Society

October 29, 1947

(Reported by C. B. Young, Secretary)

Sterility—John Travis, Jacksonville.
Discussion—R. H. Hunter, Palestine, and Lynn Hilburn, Henderson.
Indications for Bronchoscopy—George Allen, Tyler.
Discussion—Allen D. Wages, Palestine, and J. C. Allen, Henderson.
Lordotic Albuminuria—C. C. McDonald, Tyler.
Discussion—George Hilliard, Jacksonville, and John Wootters, Crockett.
Obstructive Lesions of the Bladder Neck—Thomas M. Jarmon, Tyler.
Discussion—Leroy Price, Palestine, and Kay B. Urban, Rusk.
Luncheon: Progress of Medicine Today—Tate Miller, President-Elect, State Medical Association, Dallas.
Practical Aspects of Psychiatric Diagnosis—P. C. Talkington, Dallas.
Discussion—J. S. Scarborough, Rusk, and J. T. Boyd, Jacksonville.
Pathology and Pathologic Physiology of Nephrosis—C. T. Ashworth, Dallas.
Discussion—Paul A. Rockwell, Athens, and J. W. Birdwell, Tyler.

Eleventh District Medical Society met October 29 in Jacksonville for the program outlined above. More than fifty physicians and their wives were present for the luncheon.

Officers who were elected include Drs. Robert Bell, Palestine, president; Lynn Hilburn, Henderson, vice-president; and C. B. Young, Tyler, reelected secretary-treasurer. The next meeting will be in Palestine in the spring.

AUXILIARY NOTES

Officers of the Woman's Auxiliary to the State Medical Association of Texas: President, Mrs. Edward C. Ferguson, Beaumont; President-Elect, Mrs. S. M. Hill, Dallas; First Vice-President, Mrs. A. N. Boyd, Houston; Second Vice-President, Mrs. H. P. Ledford, Wichita Falls; Third Vice-President, Mrs. A. L. Delaney, Liberty; Fourth Vice-President, Mrs. W. Frank Armstrong, Fort Worth; Recording Secretary, Mrs. M. A. Ramsdell, San Antonio; Corresponding Secretary, Mrs. W. G. Wallace, Beaumont; Publicity Secretary, Mrs. J. F. Campbell, Fort Worth; Treasurer, Mrs. J. Guy Jones, Dallas; Parliamentarian, Mrs. Paul Brindley, Galveston.

AUXILIARY NEWS

Bexar County Auxiliary honored new members with a tea at the home of Mrs. Horace Sweet, San Antonio, early in October. There were about 150 guests. Receiving with the hostess were Mesdames Charles Tennison, social chairman; Frank Haggard, honorary life president of the State Auxiliary; August Herff, membership chairman; and Mesdames Frank Steed, Dan Russell, J. R. Nicholson, R. H. Crockett, John L. Pridgen, W. W. Maxwell, Charles Holshouser, and Max Johnson, past presidents and other officers of the auxiliary.

The following new members were honored: Mesdames Harold Buttery, Eugene Chapman, Donald T. Dodge, James F. Finisterwald, Eugene Flynn, Roscoe Haley, John J. Hickey, Dean Jones, A. A. Koch, Lee Koontz, L. E. Reppert, William J. Johnson, A. S. Sadler, Gustav Pagenstecher, William M. Wolf, Jr., Ralph Hartman, Austin E. Hill, and Jack Weatherford.—Mrs. John W. Worsham, Publicity Chairman.

Bowie-Miller Counties Auxiliary entertained at luncheon in Texarkana on October 24 with the presidents of the auxiliaries of Texas and Arkansas as special guests. The two presidents are Mrs. E. C. Ferguson, Beaumont, and Mrs. W. J. Hunt, Warren. Mrs. Walter Kitchens, president of the Miller County Auxiliary, presided. Fifty guests were present for the entertainment program, which included songs by Robert Hall, accompanied by Mrs. Williams Hibbitts.

Eastland-Callahan Counties Auxiliary met in October in Eastland for dinner and a business session in which Mrs. E. R. Townsend, Eastland, was elected president and Mrs. E. E. Addy, Jr., Cisco, was elected secretary-treasurer. The group discussed and adopted a constitution and by-laws.

El Paso County Auxiliary heard a talk on juvenile delinquency by Sheriff Allen Falby in El Paso on November 10. A tea hour followed his address, with Mrs. Wickliffe Curtis and Mrs. Richard Fuchlow as hostesses, assisted by Mesdames Branch Craige, Jr., E. J. Cummins, Ben H. Cune, H. W. Dietrich, Russell Deter, E. A. Duncan, L. O. Dutton, George Edwards, Harold Eidinoff, I. M. Epstein, F. G. Evans, L. C. Feener, Joe Floyd, Joe Galatzan, J. H. Gambrell, and H. D. Garrett.

Mrs. H. H. Varner has been chosen president-elect of the El Paso County Auxiliary.—Mrs. Willard W. Schuessler, Publicity Chairman.

Harris County Auxiliary met October 27 in Houston to hear a talk on "Work" by Mr. Wylie Johnson. The hostesses were Mesdames L. W. Raney, Curtis Burge, William Lapat, Clifford Smith, W. V. Cruce, T. G. Gready, Jr., Jack Brannon, E. A. Chandler, G. H. Spurlock, D. C. McKenzie Hallson, Peyton Denman, and Mylie E. Durham.

Hunt-Rockwall-Rains Counties Auxiliary heard a review of the book "Peace of Mind," by Dr. Joshua Loth Liebman, given by Mrs. W. P. Phillips on November 4 in Greenville, in observance of Bible Day. Mrs. Phillips was presented by Mrs. M. L. Wilbanks, program leader. Mrs. H. W. Maier, presided, and the devotional in song was given by Mrs. Wanda Joe Rice with Mrs. Cameron Boone Tygrett accompanying.

Mrs. Frank Little was named publicity secretary. Mesdames J. W. Ward, Benton Clark, W. B. Reeves, and Truett Crim gave reports on the City Federation. Mrs. Ward, health chairman, announced that the main project for the year would be a complete health examination for each doctor's wife.

Hostesses were Mesdames E. P. Goode, George Trad, Fred Turbeville, E. T. Fry, and Alice M. King.

Johnson County Auxiliary, meeting in the T. F. Yater home in Cleburne for its November program, heard a talk on the Crippled Children's Division of the State Health Department by Mrs. R. W. Kimbro and another talk on vocational guidance in Kentucky by Mrs. R. A. Wansley. The president, Mrs. J. G. Little, presided. Mrs. J. W. Pickens, program committee member, distributed yearbooks and introduced the speakers. A dessert course was served to nine members by Mrs. Yater and Mrs. M. T. Knox, cohostess.

Kerr-Kendall-Gillespie-Bandera Counties Auxiliary met November 7 in the home of Mrs. Roger Stevenson, Kerrville, with Mesdames W. L. Secor, J. D. Jackson, and D. E. Packard as cohostesses. Of the twenty members present, seven were new and were introduced to the group.

Reports were made by the treasurer and by Mrs. W. E. Gregg on the Bulletin. Mrs. David McCullough announced that the tuberculosis Christmas Seals were being printed and that upon their completion, Mrs. Sam Thompson expected to hold an open house for volunteers to fold the seals for mailing.

Mrs. McCullough presented two motion picture films, one on tuberculosis and one on child care, following which pie and coffee were served.—Mrs. D. E. Packard, Secretary.

McLennan County Auxiliary met in Waco on October 22 to hear reports of officers and committee chairmen. The year's budget was adopted. A resolution on the death of Mrs. H. F. Connally was adopted. Four blue ribbons won by the auxiliary at the 1947 state meeting were on display. Mrs. F. F. Kirby reported on the State Executive Board meeting held September 12 in Beaumont. Brunch was served to fifty members by the hostesses: Mesdames Paul C. Murphy, chairman; C. H. Brooks, Woodrow Avent, C. H. Reese, W. D. Baker, S. R. Mortland, H. M. Anspach, Stanley P. Howard, and J. M. Garrett.—Mrs. F. F. Kirby.

Nolan-Fisher-Mitchell Counties Auxiliary met for luncheon in Sweetwater in September. Mrs. T. D. Young, Roscoe, vice-president, presided over the business meeting, during which Mrs. Owen C. Berg, Sweetwater, was elected president to fill the vacancy caused by the resignation of Mrs. S. F. Supowit, Sweetwater. Plans for the year were discussed. The auxiliary plans to sponsor an essay contest in the schools next spring, and voted to place *Hygeia* in each of the fourteen high schools in the three counties. Nine members were present. Mrs. R. O. Peters, Sweetwater, was in charge of arrangements for the luncheon.—Mrs. Owen C. Berg, President.

Nueces County Auxiliary held a luncheon meeting October 17 in Corpus Christi honoring wives of physicians who moved to the city during the past year. Honorees included Mesdames J. M. Rousso, Stanley Larson, L. K. McMurtry, Jack McKemie, Sam Powell, J. W. Tabler, A. B. Rinehart, A. K. Rodholm, A. C. Wood, Paul Guttman, F. W. Hartwick, and Walter Lenke.—Mrs. E. Jackson Giles.

Smith County Auxiliary held its first meeting of the year October 14 at the home of Mrs. E. H. Caldwell, Tyler. Cohostesses were Mesdames Thomas Jarmon, L. B. Windham, and Orion Thompson. Breakfast was served to twenty members, with Mrs. Roy L. Page presiding at the coffee service.

Mrs. C. C. McDonald, president, presided over a business meeting at which plans for the year were discussed. One project is to try to interest young women in taking up nursing as a profession. Mrs. George B. Allen and Mrs. Lawrence Neil were welcomed as new members.—Mrs. E. D. Rice, Publicity Chairman.

Tom Green-Eight County Auxiliary honored members of the medical society at a "Doctor's Day" meeting in San Angelo on November 3. Mesdames J. C. Byars, Gordon Madding, J. V. Sessums, C. T. Womack, F. L. Hutchins, and W. E. Schulkey were hostesses. At a business session held prior to the social hour, the auxiliary made contributions to the student loan fund, the memorial fund, and the Tuberculosis Association. Mrs. Robert Jones and Mrs. W. H. Brauns were introduced as new members.—Mrs. Maynard D. Knight, Publicity Chairman.

Fourth District Auxiliary met in Coleman on October 22 for luncheon with the District Medical Sosiety and then held a separate business meeting with Mrs. John M. Nichols, Coleman, president, presiding. A nominating committee consisting of Mesdames W. E. Schulkey, San Angelo; J. C. Young, Coleman; and Glenn H. Ricks, Brady, submitted a roster of officers who were elected by acclamation. The new officers are Mesdames Charles F. Bailey, Ballinger, president; M. D. Knight, San Angelo, vice-president; O. H. Chandler, Ballinger, secretary-treasurer; and Paul M. Wheelis, Brownwood, publicity.

Mrs. R. B. G. Cowper, Big Spring, gave a report of activities in the Second District and invited the group to attend the October 30 meeting of the Second District Auxiliary in Big Spring. Mrs. W. E. Schulkey, San Angelo, and Mrs. Paul M. Wheelis, Brownwood, reported activities of their county auxiliaries. Games and refreshments were enjoyed by fifteen members after the business session. The next meeting of the auxiliary will be in Ballinger in the fall of 1948.—Mrs. Glenn H. Ricks, Publicity.

Eleventh District Auxiliary met October 29 in Jacksonville. Mrs. E. H. Caldwell, Tyler, council woman, presided. Reports were given by officers and representatives of county auxiliaries, and committees were appointed. The twenty-three members present then joined members of the District Medical Society for a luncheon at which Dr. Tate Miller, Dallas, President-Elect of the State Medical Association, spoke. An open house was held during the afternoon at the home of Mrs. L. L. Travis.—Mrs. J. M. Travis, Reporter.

DEATHS*

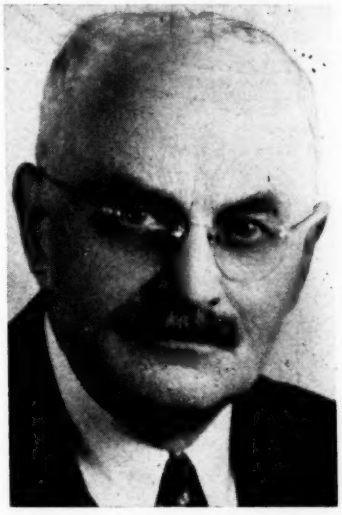
Dr. Hugo Anton Engelhardt, Houston, Texas, died November 5, 1947, of peritonitis.

The son of Carl and Sophie Engelhardt, Dr. Engelhardt was born May 1, 1874, in Bilshaven, Province of Hannover, Germany. He was educated in the Royal Prussian Progymnasium and at the University of Goettingen, Goettingen, Germany, prior to coming to the United States, where he received his medical degree from old Bellevue Hospital Medical College, New York, in 1897. He served his internship at Charity Hospital, Blackwell's Island, New York, and then opened practice in Houston. Except for a short time which he spent in Brenham, Dr. Engelhardt had continued to practice in Houston until his death. After several years as a general practitioner, Dr. Engelhardt decided to specialize in the eye and did his postgraduate work in that field in Goettingen and Freiburg, Germany.

Dr. Engelhardt was a member of the State Medical Assocation and American Medical Association. For a short period he was a member of the Washington County Medical Society, but for many years he had been a member of Harris County Medical Society. He was on the courtesy staffs of St. Jo-

seph's Infirmary, Methodist Hospital, and Memorial Hospital. During World War II he was active in Selective Service work. He was a member of Holy Rosary Church, Houston.

Surviving Dr. Engelhardt are his wife, the former Miss Elsie Tristram, whom he married May 1, 1901, in Brenham; a son, Dr. Hugo Tristram Engelhardt, Houston; two brothers, Clemens Engelhardt and



DR. HUGO A. ENGELHARDT

Adolph Engelhardt, both of Germany; and two grandsons.

Dr. Jesse Polk Lockhart, Brady, Texas, died October 25, 1947, in a San Antonio hospital of a rare circulatory disease with which he had been ill for several years.

Born October 17, 1891, at Brady, the son of Dr.

DR. JESSE POLK LOCKHART

and Mrs. J. B. Lockhart, Dr. Lockhart attended the public schools of Brady and a private school for boys at Austin before entering the University of Texas, Austin, and old Fort Worth School of Medicine, from which he was graduated in 1915. He served an internship at a hospital in Fort Worth and was a resident for one year at Tulane University, New Orleans, specializing in obstetrics and pediatrics. He practiced for one year at Eden before moving to Pharr, where he was active for twenty-five years. In 1944 he returned to Brady, where he practiced until his death.

Since 1920, Dr. Lockhart had been a member of the State Medical Association and American Medical Association, first through Concho County Medical Society, then through Hidalgo County Medical Society, and finally through Kimble-Mason-Menard-McCulloch Counties Medical Society. He was a member of Phi Chi medical fraternity, the Masonic Order, the Shrine, and the Kiwanis Club. During World War I he served as a first lieutenant in the Army, being stationed at a hospital in Norfolk, Va.

Dr. Lockhart is survived by his wife, the former Miss Margaret Caldwell Flowers, whom he married at Pharr on September 10, 1936. He is also survived by his father, Dr. J. B. Lockhart, Brady, who is retired from the practice of medicine; four daughters, Dr. Jessie Alice Lockhart, Houston; Dr. Alva Lucille Lockhart, Dallas; Mrs. L. P. Inman, Alamo; and Miss Ann Margaret Lockhart, Brady; one son, Jesse Polk Lockhart, Jr., Brady; one sister, Mrs. W. W. Boone, San Antonio; one brother, Frank Lockhart, Goosecreek; and two grandchildren.

Dr. Albert Howell Mann, Texarkana, Arkansas, died at his home October 16, 1947, of hypertension.

The son of Dr. and Mrs. R. H. T. Mann, Dr. Mann was born in Brownsville, Tenn., September 25, 1899.

DR. ALBERT H. MANN

He attended the Webb School for Boys, Bellbuckle, Tenn.; the University of Wisconsin, Madison; and Northwestern University, Evanston, Ill., before entering Tulane University Medical School, New Orleans, from which he was graduated in 1926. After serving an internship at the Peter Brent Brigham Hospital, Boston, Dr. Mann did postgraduate work in Vienna, Austria, before becoming associated in practice with his father in Texarkana. He remained in Texarkana following his father's death, specializing in eye, ear, nose, and throat, but had retired

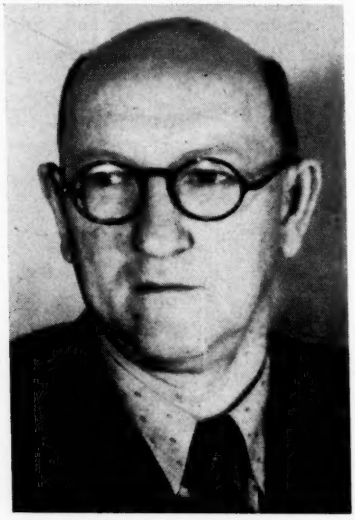
from active practice some years ago because of ill health.

During the period of his active practice Dr. Mann was a member of both the State Medical Association of Texas and the Arkansas Medical Society. His membership in the State Medical Association of Texas was through Bowie County Medical Society. He was also a member of the American Medical Association and the American Academy of Ophthalmology and Otolaryngology. He was a member of Alpha Omega Alpha fraternity, the First Methodist Church, the Masonic Order, and the Huguenot Society. He was in military service during World War I.

March 17, 1928, Dr. Mann married Miss Kathryn Quevli of Tacoma, Wash., in Vienna. He is survived by his wife; three sons, Robert Howell Taylor Mann, Albert Howell Mann, and Christen Quevli Mann; and two sisters, Mrs. David Bruton, Houston, and Mrs. Malcolm Gannaway, Little Rock.

Dr. Dallas Southard, longtime physician of Stamford, Texas, died October 27, 1947, at Pleasant Hill, Tenn., of coronary thrombosis.

The son of D. F. and Amanda (Hampton) Southard, Dr. Southard was born June 14, 1882, in Sparta, Tenn. His preliminary education was secured in Sparta and Nashville, and his medical education from the University of Tennessee, Nashville, from which he was graduated in 1911. He practiced for a short



DR. DALLAS SOUTHARD

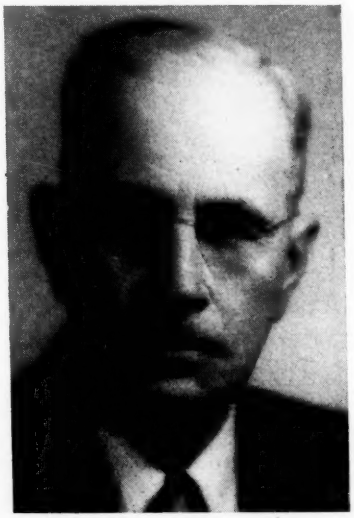
time in Wichita Falls and in Avoca, Texas, before moving to Stamford, where he was active for almost thirty-five years. He retired from practice in 1946 and was visiting in Tennessee when he died.

Throughout his professional career Dr. Southard was a member of the State Medical Association and American Medical Association. He was a member successively of Wichita County, Jones County, and Taylor-Jones Counties Medical Societies. In 1947 he was elected to honorary membership in the State Medical Association. He was also a member of the Texas Radiological Society. He was an elder in the local Christian Church; a thirty-second degree Mason, being past master, past high priest, and thrice illustrious master of the Stamford lodge; a member of the Shrine and Knights Templar; past president and charter member of the Stamford Rotary Club; a member of the American Legion; a medical officer of the Texas State Guard during the war; a director of the First National Bank of Stamford; and a director of the Texas Rodeo and Cowboy Reunion. During World War I Dr. Southard served in Europe as a first lieutenant in the Army Medical Corps.

On February 8, 1905, Dr. Southard married Miss Lillie Swafford, who survives. Also surviving are three brothers, J. B. Southard, B. M. Southard, and Dexter Southard.

Dr. Wilburn Cook Williams, San Marcos, Texas, died November 1, 1947, of coronary occlusion with myocardial degeneration.

Born May 22, 1874, in Martindale, Texas, Dr. Williams was the son of R. S. and Nancy Jane Williams. When he was a boy, the family moved to Staples, Guadalupe County, where he grew up and attended school. He attended Baylor University, Waco, and the University of the South, Sewanee, Tenn., and received his medical degree in 1905 from the University of Tennessee, Nashville. After serving a year's internship at City Hospital, Nashville, Dr. Williams returned to Staples to practice. In 1911 he moved to San Marcos, where he was in continuous practice until 1946, when he retired because of failing health.



DR. W. C. WILLIAMS

Throughout his professional life, Dr. Williams was a member of the State Medical Association and American Medical Association, first through Guadalupe County Medical Society, then through Hays County Medical Society, and from the time of its organization, through Hays-Blanco Counties Medical Society. He served as president of both the Hays and Hays-Blanco societies. In 1936 he was vice-president of the State Medical Association. He opened the first hospital in San Marcos, which he operated for a number of years, and later with several other physicians operated another hospital. He specialized in surgery.

Dr. Williams was a member of the Baptist Church, the Masonic Order, the Shrine, Knights Templar, and was a charter member of the San Marcos Lions Club.

While he was in Nashville, Dr. Williams married Miss Myrtle Langford, who preceded him in death in January, 1945. In October, 1945, he married Miss Mae Rector, who survives. Also surviving are a daughter, Mrs. Edward Tarbutton, San Marcos; two brothers, W. H. Williams, Mertzon, and Dr. S. N. Williams, Del Rio; and two grandchildren.